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THE
NATURE and CURES
OF
FLUXES.

To which is added,

The METHOD of finding the DOSES of
Purging and Vomiting MEDICINES for
every Age and Constitution of Men;
together with the DOSES of these ME-
DICINES in common Use.

The THIRD EDITION.

By *W. COCKBURN*, M.D. F.R.S.
and of the College of Physicians in
London.

*Illud ante omnia scire convenit, quod omnes Medicina Partes ita
connexae sunt, ut ex toto separari non possunt. Cels.*

L O N D O N :

Printed for JOHN CLARKE at the Bible,
under the Royal Exchange, Cornhill.
M.DCC.XXIV.

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THE
NATURAL CURES
OF
FLUXES

The Nature of Fluxes is to be
understood by the Name of
every one who is afflicted with
them, and the Cause of them is
to be known in order to cure them.

The Third Edition

By W. BOOTH
and of the
LONDON



Printed by W. BOOTH
and of the

Printed for W. BOOTH
and of the
LONDON



Invicto Principi
GULIELMO III.
Magnæ Britanniaë, Franciaë,
Hiberniaë, &c.

REGI AUGUSTISSIMO,
Imperio maximo, Exemplo majori,
Patriæ laborantis vindici, liberatæ Patri,
Imperii Britannici Patrono perpetuo,

DIATRIBEN hanc in Classium ac Exer-
cituum Emolumentum Sacratam voluit

GULIELMUS COCKBURNUS.

37

Invisio Principi

GUILIELMO III.

Magna Britannia

Hibernia

Rex Anglorum

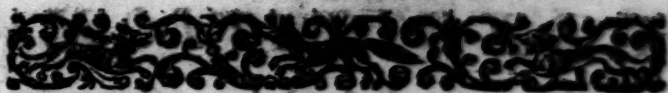
Invisio Principi

Prima Invisio Principi

Invisio Principi

Invisio Principi

GUILIELMO III.



To the Right Honourable

James Earl Berkeley,
First Lord Commissioner,

Sir JOHN JENNINGS, *Knt.*
JOHN COKBURN, *Esq.*
WILLIAM CHETWYND, *Esq.*
Sir JOHN NORRIS, *Knt.*
Sir CHARLES WAGER, *Knt.*
DANIEL PULTNEY, *Esq.*

*Lords Commissioners for Executing the
Office of Lord High Admiral of
Great Britain, Ireland, &c.*

My LORDS,



Flatter my self that
your *Lordships* will
give this Book a fa-
vourable Reception, since it
A renders

ii DEDICATION.

renders a *Medicine* for curing *Fluxes*, which has been hitherto used with great Success, more efficacious, without its undergoing any Change in its Composition.

His late Majesty, of glorious Memory, being well acquainted with the Difficulties even victorious Armies have to encounter with from this Disease, was pleased to thank me in a very particular Manner.

And as Your Lordships Predecessors, after a strict Examination, approved and espoused

DEDICATION. iii

espoused this Medicine; so the long and continued Success of it in the Royal Navy has already induced Your Lordships to recommend it to the Service of future Ages, as a *Medicine so beneficial to Seamen in a Disease they are so much incident to, especially in warm Climates, that you are desirous that it should be constantly supplied to Ships bound on foreign Voyages; and that all his Majesty's Ships, that are to be fitted out for the Mediterranean, or the Indies, be furnished from Time to Time with the same Proportion of Me-*

iv DEDICATION.

dicine they were formerly supplied with.

Since then, my Lords, this Book informs your Surgeons of the most proper Times for administering this and all other Medicines, in every particular Flux, as well as of the proper Quantities of them ; 'tis hop'd your Lordships will look on this Book as useful and necessary, and consequently not unworthy of your Protection.

I affirm to your Lordships what is fully proved in the following

DEDICATION. v

Following Book, that Physicians have made little or no Improvement, either in the speculative, or practical Part of this Disease, since the first and earliest Times of Physick, and I may justly observe, that they cannot be supposed to have provided against Evils they did not apprehend: Whereas now, my Lords, the Royal Navy will not only be provided with the best Medicine hitherto found out for this Disease; but your Surgeons will be as well instructed how to administer this or any other Medicine for the Cure of Fluxes, as the ablest

vi *DEDICATION.*

Physicians have been in any
former Age. I am, with great
Respect,

My LORDS,

Your Lordships most humble

and faithful Servant,

W. Cockburn.



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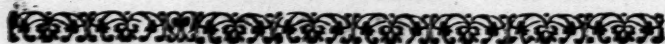
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ERRATA.

THE Reader is desired to correct the running Title
from page 168 to 224 according to the Arguments
of the Chapters.



THE

The general Account of a LOOSNESS.



AMONG the various Changes that happen to the Bodies and Constitutions of Men, there is not any more obvious, none of greater Consequence than a Change in the common Evacuations; for if they are either in Quantity greater than ordinary,

dinary, or if their Quantity is become smaller, every Man believes himself under some Disorder; especially when he goes too frequently, or very seldom, to Stool; because this Failure in Nature is of all Defects of this kind the most sensible.

But as a *Loosness* is that Change that requires our greatest Care, and the most speedy Relief, I have made it the Subject of our present Inquiry. For a *Loosness* not only proves fatal, when it is the primary and original Disease; but it is very commonly joined with every Disease, and that in its most dangerous State, and under its worst Circumstances. Moreover, a *Loosness* is often itself a Cure to the Disease it accompanies; while at some other Times of the same Disease it proves a most fatal Symptom. Tho' common Sense then tells us we have a *Loosness*, yet common Experience teaches us, that it is neither *easy* to cure a *Loosness*, nor always *safe* to put a *Stop* to a *Loosness*: if we consider especially, that a *Loosness* has often had fatal Consequences by being overcome by some Methods; which, on other Occasions, have recommended themselves to Physicians equally by their Safety and Success.

My Design, then, at present is to discover the *Nature* of a *Loosness* so perfectly, as to be able by that Discovery to make the most proper

proper Administrations for every Kind of a *Loosness*. Thus we may put every Medicine, that is to be found in the History of Physick, to its best use. Thus do we secure the healing Effects of the most powerful Medicines, without hazarding any of the Danger that has often happened in administering every one of them.

This Inquiry is become necessary, the Disease being very common, and the Methods of curing it precarious, dangerous, and encumber'd with the greatest Obscurity and Confusion. For when Physicians tell us that the various *Species* of a *Loosness* are as many as the *Matter* that has been observed to be voided in any *Loosness*; as different as are the different Parts of the Body that can discharge their Humours into the Guts, and thus produce a *Loosness*; besides the many Causes of a different Nature from any thing yet mentioned, which yet are able to produce a *Loosness* of some kind or another: In short, the various *Species* of a *Loosness* are, in this their Account, infinite; and the Method of curing them has not been settled and determined.

To prevent this Confusion in our future Inquiries, I will first collect the general Marks of a *Loosness*, and afterwards assign the distinguishing Symptoms of every particular *Loosness*; from which Symptoms I will endeavour

4 *The general Account of*

deavour to discover the Nature of every *Loosness*, and the proper Cure of every particular *Loosness*. Thus I shall avoid the Confusion that arises commonly from a great Number of Observations, that are very unfaithfully made, and unskilfully apply'd. Thus we may see the true and proper use that is to be made of Observations, and Experience, in discovering the Nature of Diseases, and for settling and fixing the Methods of curing them.

The most obvious *Species* of a *Loosness* is a *Diarrhœa*; which, for that Reason, has by Eminency the Name of a *Loosness* in general. The distinguishing Marks of a *Lientery*, *Cœliack Affection*, and of a *Dysentery*, are likewise very manifest and evident.

A *Diarrhœa* has been supposed, but very falsely, the most simple and least complicated kind of a *Loosness*; which is described by *Aretæus* to be the ^a *voiding of liquid Food unconcocted*: but that Physician does not sufficiently distinguish between a *Diarrhœa* and the *Lientery*. *Galen* says, that a ^b *Diarrhœa is a plentiful and frequent Flux of the Belly, without an Inflammation or Ulcer of the Guts*. There not being an Ulcer or an Inflammation of the Guts is put by *Galen* as the Dif-

^a Lib. 2. cap. 7.

^b *Finit, Medic,*

a LOOSNESS.

5

ference between a *Diarrhœa* and the *Dysentery*, which has been supposed always to have an Ulcer as an essential Part of the Disease.

Physicians commonly represent a *Diarrhœa* to be a *Running or Flux out of the Guts, without an Ulcer, but that Gall and Phlegm are voided in great Abundance, and these either alone or mixed together.*

But when the Food passes quickly through, without having any sensible Change made upon it, and much in the same Condition as when it was swallowed down: this is a *Loosness* in the Opinion of the greatest Number of Physicians, and is by the Greeks called *Ασπ-τερία*, by the Latin Physicians, *Intestinorum Levitas*, and may in *English* be called the *Smoothness or Slipperiness* of the Guts. * *Hippocrates* informs us that the *Smoothness of the Guts* dismisses our Food altogether unconcocted, without Pain, and without the Sick losing their Flesh.

† *Actuarius* giving us the like Description of the *Slipperiness* of the Guts, (which tho' he thought followed a *Diarrhœa* or a *Dysentery*) says that some such like thing happens to People ill of the mentioned Disease, as to those who are troubled with vomiting; who, because they cannot keep what

* Lib de Affect. pag. 536. Foel.
† 49. cap. 42.

† Lib. 1. πρὸ διάρρ.

6 *The general Account of*

they have eaten, throw it quickly up again. The Food is brought up unchanged in this last Case, as it is thrown off in a *Lientery*.

Yet if the Food has remained long enough in the Stomach to be concocted, but the *Chyle*, or *Cream* of the Food, is afterwards carry'd off liquid, and not perfectly digested, this Loosness is called the *Cæliack Affection*, or the Disease of the Stomach; though we shall hereafter be convinced, that the Stomach has sufficiently done its Part, in concocting the Food. But we must observe, that as the Chyle is the Substance of this *Loosness*, so it is always without any *Gripping*, but commonly is attended with *Fainting*.

The *Loosness* which is of all the most terrible is the *Dysentery*; wherein the Blood, the Fountain and River of Life, is often voided in a very great Abundance, always in a Quantity greater or less. And indeed it is very terrible to perceive the Substance of our Recruit not only carry'd off, and the Blood deprived of its Supply; but even the Blood it self also wasted in a *Dysentery*. This is not all; but in a *Dysentery*, besides the Loss of Blood, and the Quantity of Slime, and many Humours, there is Pain and violent Gripping.

2 Hippo-

^a Hippocrates says, That when the Body is heated, and sharp Humours are voided, and the Gut is fretted and exulcerated, and Men have Bloody-stools, this is a Dysentery; a Disease very great and dangerous. And in ^b another Place he tells us, that when a Person is ill of a Dysentery, there is Pain and Gripping all over the Belly; and he voids Gall and Phlegm, and adust Blood.

So the most elegant Cornelius Celsus, the most exact Follower of Hippocrates, calls that Disease *Tormina*, which his Master named *Δυσεντερία*; and after him says ^c that, within, the Guts are exulcerated; out of them Blood flows, and that always with some liquid Excrement; sometimes it is voided with a slimy and mucous Substance; and sometimes there is, along with the Blood, a fleshy Substance.

These, and the like Descriptions of a Dysentery have been unanimously handed down through the succeeding Ages of Physick. ^d Galen, in the like manner, says, a Dysentery, or the Grief (*Difficultas*) of the Guts is an Ulcer of the Guts with an Inflammation, with a Discharge of Blood, and of Streaks like Lees of Wine, not without great Pain and Gripping in the Belly.

^a De Victus rat. lib. 3. sect. iv.
^d cap. xv. ^d Finit. Medic.

^b De Affect.

^c Lib.

8 *The general Account, &c.*

Galen in several other Parts of his Works describes a *Dysentery* much after the same manner; some whereof will be considered, when I enquire particularly into the Nature and Cure of a *Dysentery*. Then it will appear by what Means the Blood breaks through its Vessels, and flowing into the Guts is mixed with the Stools, and voided with them; in which the Essence of a *Dysentery* consists; for Blood voided in liquid Stools is its pathognomonick Symptom, without the supposing any Cause for the Discharge of the Blood.

But in order to attain the Knowledge of these useful Particulars, I will follow the Rule and Advice of the great *Celsus*, and endeavour to discover the *Seat* of a *Loofness* by calling in the Help of *Anatomy*; since that great Physician with great Truth assures us, that ^a *we may very easily know the Diseases of the inward Parts, and the Ways of curing them, if we first briefly shew their Seat.*

^a Lib. 4. cap. 1.



C H A P. II.

The Seat of a LOOSNESS.

 S we have in the foregoing Chapter, related the Signs whereby every Loosness is known, and may be distinguished from one another ; so, in order to discover the Nature of every Loosness and its proper Practice, it is absolutely necessary to discover the Seat of every Loosness, the Scene where the forementioned Calamity is transacted : For if we consider that the mentioned *Diagnostick* Signs are merely the Effects of a Cause that overturns the natural Action of a Part, *viz.* the Guts; it will easily follow that it is also necessary to know the natural State of the Guts, and in what Particulars their present State is brought about ; or how, in what Particulars, their natural Action is perverted, hurt, and put out of order. When this is discovered we become apprized of the Nature and Essence of the Disease, of the true Causes that produce it, and of the direct Method of curing every particular Affection, as far as human Art and Skill can possibly perform.

We are now particularly to enquire whether the *loose Stools*, filled with all the various Humours, and with the various Degrees of Liquidity wherewith they appear, may be made

made manifest from our Knowledge of the State of the Guts? Whether the Griping, and other various Symptoms become obvious from the natural and preternatural State of the Guts? And lastly; if the Guts are found insufficient to furnish out all these Symptoms, whether any *Inlets* into the Guts may contribute to, and assist the Guts in what they are defective, by rendering the Stools and Excrements more liquid? The true State of the Guts then, both as to their Structure, and the Ways their Liquids are affected, must, without doubt, conduct us into the *Nature, Causes, and Cure* of every Looseness.

The Advantages arising from a true Relation of the natural State of the Guts being so great and desirable, I proceed in the next Place to this Account it self; because we are led thereby to great Knowledge: And tho' the Guts are more immediately concerned, yet the *Stomach* too has a great Share in the Calamity of every Looseness, and bears a principal Part in some of them. For this Reason it will be proper to begin our Account so high as the Parts are which belong to the Stomach.

The *Stomach* is generally situated in the lower Belly of every Animal, Fowls only that feed on Grain excepted. Its upper Orifice in *Men, Quadrupeds*, and in *Fishes* that respire, is immediately under the *Midriff* or *Diaphragma*:

Diaphragma: but this Orifice is almost contiguous to the Mouth of the *Fishes* that do not *respire*. The Stomach then is in the upper Region of the *Abdomen*, partly in the left *Hypochondrium*, and partly under the *Pit* of the Stomach, or *Scrobiculus Cordis*: It is united to the *Midriff* by Means of the *Oesophagus*, and its lower Orifice or *Pylorus* is continued with the *Duodenum*, the first of the small Guts.

The Stomach consists of four Coats, tho' it was long supposed to consist only of three. The first Coat covers the Stomach every where, and is a Continuation of the *Peritoneum*, after it has given a Coat to the *Midriff*. The Fibres of this Coat run directly from the first Orifice to the last and second; yet these Fibres are strongest in the Bottom of the Stomach.

The second Coat of the Stomach is made up of thicker and more fleshy Fibres, and are of a double Order; one internal, and another external; this Row of Fibres surrounds the Stomach circularly, and cuts the Fibres of the forementioned Coat at right Angles, while the inner Order of Fibres creeps along the Stomach obliquely. The proper use of this fleshy Coat is, without doubt, to contract the Stomach, and thereby to drive the liquid Contents of it out by the *Pylorus*.

When

When the second Coat is removed there appears immediately a third, which was commonly supposed to be the last Coat of the Stomach, and is called the *Nervous Coat*: in it there is a great Number of *Blood-Vessels* and *Glands*. Dr. *Willis* first told us, that this Coat was every where covered with a *villous* Substance, whose Pile or Shags are inserted (like the Pile of Velvet) perpendicularly on the third, or nervous, Coat. But Dr. *Willis* afterwards discovering that this villous Substance might be parted from the nervous Coat, and that only by steeping the Stomach in warm Water, very properly constituted this villous Substance for a fourth Coat of the Stomach, by the Appellation of the *villous Coat*; by which Name this fourth Coat is known at this Time. So that the Stomach truly, consists, and is composed, of the four mentioned Coats, whose proper Office is easily discovered, and shall be as plainly related as this Place will admit.

As the Method of Dr. *Willis* for separating his *velvet* or *villous* Coat of the Stomach was new, so was it not efficacious enough to discover whether this was truly a Coat or not, and far less the true use of it; for that learned Physician thinks the principal use of it is to defend the *nervous Coat* from the sharp or rough Aliment that may be sent into the Stomach; and, speaking afterwards
of

of the *villous Crust* in the Guts, he believes it defends the nervous Coat of them from the Shock he imagines this Coat might otherwise receive from the Chyle falling into the Intestins. Besides, he fancies that the *villous Coat* receives the Chyle in order to deliver it (but to what purpose) to the *nervous Coat*. But as I shall hereafter mention a Method of separating the villous Coat more easily, when I have occasion to mention it in the general Account I am to give of the Intestins, I will only add that the villous Coat is altogether made up of *Arteries*, which terminate in it, and from which are made great Discharges into the *Stomach* and *Intestins*.

The *Stomach* ends by the *Pylorus* in the Guts, and the Guts are a continued Canal from the Stomach till they end with the *Rectum* at the *Anus*. The Guts in general are divided into *small* and *great* Guts: The first are the *Duodenum*, *Jejunum*, and *Ileum*; the last are the *Cecum*, *Colon* and *Rectum*. The Structure of the Guts is like that of the Stomach, and their Coats proportionable to their respective Bulk; only their common Coat comes directly from the *Peritoneum*, and the villous Coat is continued from the Stomach. This Coat after due Maceration in Vinegar and Water is first parted from the nervous Quantity, and the further Separation is easily performed by blowing only between
these

these two Coats. The villous Coat is very thick, and yet it is very light; and when it is filled with Air and suffered to dry for a Minute, four Inches of it do not weigh as many Grains. Its Substance, when viewed in a Microscope, is like the Pith of a *Rush*.

But as my principal Design, in the Account I give of the Guts, is to discover these Sources that supply the liquid Excrements, and that render them sometimes incredibly thin and watery; so I will consider these Liquors as they are either separated from the Blood at some Distance from the Guts, or as they are more immediately secreted in the very Glands of the Guts; both which Liquors are of the greatest use to be known for the *Animal Oeconomy*, and give the greatest Light to our present Inquiry. Our concocted Aliment, then, no sooner gets out of the Stomach, but that it quickly meets two Liquors secreted at some Distance from the Guts, and brought into them by their proper Pipes and Canals: These Liquors are the *Gall* and Liquor of the *Pancreas* or *Sweetbread* that are poured into the *Duodenum*, the first of the Guts lately mentioned. The thicker Part of the *pancreatick Duct* opens, as was said, into the *Duodenum* four or five Inches below the *Pylorus*, at which opening the *Gall* in Men likewise flows into the Gut; yet the *pancreatick Duct* in most other Animals
is

is a proper and particular Conveyance of the pancreatick Juice only, and is further in the *Duodenum* than the Insertion of the Duct of the *Gall*.

Other Liquors, discharged into the Guts in great Abundance, are secreted at the Glands of the Guts immediately. The small Guts of more perfect Animals are full of several Glands scattered up and down them at unequal Distances from one another. In the Beginning of the Gut the *Plexus* of Glands are small, but become greater and more numerous as we proceed in the Guts, and are biggest at its ending. It often happens that for a large Tract of Intestin thick Clusters of these *Plexus* of Glands are planted, but especially about the End of the *Ileum*; and there they are found in so great a Number, that they seem to be the principal Composition of that Gut; insomuch, that the *Ileum* is always provided with *Plexus* of Glands, however deficient some other Guts are found to be. Nay, the *Ileum* always makes good the scanty Provision of Glands in other Guts; for it is then best stored when the *Duodenum* and *Jejunum* are worst provided. These *Plexus* are very various; because in the like Space a *Plexus* sometimes consists of ten Glands; sometimes of twenty; sometimes of forty; and at other times it will consist of fourscore Glands.

The *Situation* of the Glands is very instructing, their Base being in the middle part of the Gut, and is often seen in the investing Coat, without any Dissection, while their Tops shew themselves in the villous Coat of the Gut. It is likewise worthy of Observation, that there is not one of these Glands to be met with on that Side of the Gut which is joined to the *Mesentery*, but always on the contrary and opposite Side, be their Number in the small Guts ever so great.

Besides the mentioned *Plexus* of Glands, there are a great Number of another Sort found in the Guts; and as they are single and not in a *Plexus*, are called *Solitary* Glands. They have several Orifices, and are blown up with the gentlest Breath: They separate a thin Liquor into the Guts, while the *Plexus* of Glands yield the mucous Substance that covers the Guts and defends them from Injuries they are subject to from hard and rough Excrements.

The Glands to be met with in the great Guts are pretty many, and by the Liquor they secrete seem to be of a different Nature from any of the former: The Glands in the *Colon* and *Rectum* are considerably larger than those in the small Guts; they are not in a *Plexus* but are single Glands only. Their excretory Ducts discharge a mucous Substance, which is reserved in a kind of *Lacuna*. This

Mucus

Mucus is often mistaken for *Fat*, and gave Rise to the Opinion Physicians entertain at this Time, of *Fat* being discharged in the Stools in a Loosness, as we shall find hereafter. The learned *Mercurialis* is drawn into this Mistake by the great Anatomist *Vesalius*; but we are taught by this Mistake, what it was, that Physicians, in all Ages, belived to be the *Fat* among the Stools, when they spoke of a *colliquative* Diarrhoea: *Natura itaque, says Mercurialis, ne offenderentur Intestina ab asperitate Excrementorum, oblinivit Intestina quodum Muco, qui tuetur ipsa ne offendantur: imo vero ut etiam Vesalius in suis libris Anatomicis dixit, In multorum invenitur Intestinis Adeps copiosissimus, ut non male faciant Arabes, qui hunc Mucum modo Adipem & Pinguedinem, modo Mucilaginem appellant: imò Galen. 4. Aphor. 26. nominavit Adiposa corpora.*

Now that immense Secretion of various Liquors made, through the prodigious Length of the Guts, is performed at these Glands from the arterial Blood that flows constantly along them: it is on this Account we find the Guts better provided with Arteries than any other like Part in the whole Body. The villous Coat is altogether made up of *Arteries*, as I lately observed. The Guts receive numerous Branches from the upper and lower *Meseraicks*: the former branching off from the

C

Aorta

Aorta a little above the *Emulgents* is spread every where along the *small Guts*, while the lower coming off the Ending of the *Aorta* provide plentifully the great *Guts* with great Numbers of Branches. Moreover, the *Duodenum*, besides this Provision by the *Mesentericks*, has a particular *Artery* bestowed upon it self from the *Cæliack*. The *Rectum* too has external hæmorrhoidal Vessels from the *hypogastrick Artery*; but, as these Vessels have no Share in our present Inquiry, we shall drop any further Consideration of them.

We must conclude then, that this great *Apparatus* of Machines, of *Glands*, and *Blood-Vessels*, and the various Secretions performed in the *Guts*, was designed for some very necessary and particular Purpose of Life; and that Errors and Defects in the Performance of the Office of any one, or of all these, must bring along with them great Diseases and Death it self under different Shapes and Appearances. But to be as particular as my present Subject does allow me to be; it is very manifest from the Prospect of the *Stomach* and *Intestins* thus laid open to View, that the Office of the *Stomach* is to prepare the Food and Aliment that must repair the Blood after the Decay and Losses it sustains in every Part of the Body: as also, that it is a Machine able and sufficient to overcome the Resistance of the *Guts*, when it drives the

the prepared Aliment into their Cavity. For the *Food* being well macerated in the Mouth, while it is grinding with the Teeth, into so small Pieces that it may with Safety be conveyed and thrust down the Gullet into the Stomach, remains there by the Figure of the Stomach only and the difficult Progression it meets in its Ascent into the *Pylorus*, as long as it retains a solid Form; but afterwards, in a natural State passes into the *Duodenum*, as fast as it can become a more liquid Mass.

The concocted Food no sooner passes into the *Duodenum*, but it is rendered more liquid by the Addition of the *Gall* and *Pancreatick Juice*; the first whereof contributes to the Fluidity of the Chyle, not only as it is a Liquor, but as it abounds likewise with proper Salts, whereby the Liquidity of the *Chyle* is far more encreased, than by the Addition of the *Gall* it self. And if we follow the *Chyle*, especially in the *Small Guts*, we find it is continually receiving an additional Supply of Liquor to render it more fluid, and for that Reason, more apt to be driven into Orifices of the *Milky-Vessels*, the first Stage it makes towards the Blood.

On the other Hand, that Part of the *Chyle* that is gross and cannot be admitted into the *Lacteals*, is driven along the Cavity of the Guts, till it is entirely thrown out of the Body by the *Anus*: but through the whole

Progress of useless and excrementitious *Chyle*, it has been the principal Care of Nature to provide against the *Sharpness* and *Roughness* of those Excrements.

But if we consider the Errors and Accidents to which this Method of Nature is subject, we shall not only be able to deduce the Matter and Manner of every *Looseness* from them: but the Nature of *Costiveness* (the Reverse of a *Looseness*) as well as the Nature of Colicks, in general; and the Nature of a *Tenesmus* may be made evident. Nay the *Boulimia*, a Disease little understood at present, may be explained. Thus wisely did Physicians anciently recommend *Anatomy*, as one necessary Piece of Knowledge for attaining the Nature of a Disease; from which the true Method of curing it can only be learned. At present, I will attempt to make good this Advice, by shewing the great Light we bring into the Knowledge and Cure of a *Looseness*, by Means of *Anatomy*, and a right Use of what has been related and described.



CHAP. III.

The Nature of a DIARRHOEA.

IN discovering the *Nature* of a *Diarrhœa*, from which the Method of curing it can only be drawn, we must first relate its Symptoms; because we may be led by the Symptoms of any Disease into the Nature of that Disease. The Symptoms then of a *Diarrhœa* are *frequent Gripping and loose Stools, full of Slime, Gall, and blackish Humours.* Sometimes the Stools are watry without Excrements: at other times, there is a great Abundance of Excrements, and they greasy and frothy. In time of a *Diarrhœa* there is commonly a great Loss of Appetite, a Fever, a weak, and often, a depress'd Pulse. The Sick make but little Water; which is commonly of a natural Colour, though it is sometimes *lixivial*. The Stools, too, are often like *Lees of Wine*.

The Distemper may last till the seventh Day with Benefit to the sick Person, when it is without a Fever. But *Avicenna* justly observes, that there is always Danger in every Sickness that begins with a Looseness. When a *Diarrhœa* holds longer on a Person, there is a great Decay in the fleshy Parts, Faintness

ness, and a small Pulse. A *Lienteria* and a *Passio Cæliaca* often follow a *Diarrhoea*. *Hippocrates* observes, that after a *Diarrhoea*, comes a *Dysentery*; and that it is an ill Sign when a *Dysentery* follows a *Diarrhoea*. A *Dropsy* often ensues a *Diarrhoea* of a long standing; and *Hippocrates* relates, how *Serapis* swelled (or became dropsical) after a moist and liquid Belly; or after a Loosness. After a long continuance of this dismal Scene *Death* often finishes the Distemper.

Now if we consider what has been laid before us, in the foregoing Chapter, the first Symptom of going to Stool more frequently cannot occasion any Difficulty: for, in it, the common Course of Nature is manifest; that the grosser Part of our Aliment is conveyed out of our Body by the *Rectum*: as also that the muscular Coat of the *Stomach*, assisted with a like Coat through the whole Tract of the *Intestins*, are the impulsive Force that drives every thing out of the *Stomach* and *Intestins*; faster or slower, according to the Resistance the Contents of the *Stomach* and *Intestins* make to their Expulsion. And therefore, the Contents of the *Stomach* and *Intestins* are driven out more or less thorowly, faster and oftner, according as these muscular Machines are set a going. Moreover, from the same View of the Guts, as well as by what passes in time of the *Jaundice* and
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Some other Diseases, it is manifest that the *Gall* is necessary for the natural *Expulsion* of every thing contain'd in the Guts: by Consequence, proper Changes in the *Gall*, in Quantity and some other Circumstances, cannot fail to produce a more *frequent* and unnatural *Expulsion*; as we find in the Case of a *Diarrhoea*; which Circumstances must be duly considered in the Practice of that Disease.

But tho' these muscular Machines were not supposed to act much more than in a natural State, the Stools must be more *frequent* by their being thinner: which Thinness may be acquired by an extraordinary Quantity of *Gall* and other Humours. And therefore the *Gall*, but especially when it is assisted with other Humours, will make the Stools to be more *frequent*.

In the next Place; those muscular Machines seldom act beyond their natural Strength, but by some stimulating Cause; which extraordinary *Stimulus* is a general Cause of Pain. Hence it is that a more frequent going to Stool is often attended with Pain; and Pain in the Bowels is what we express by *Gripping*: and therefore as *Gripping* is a very common Symptom of a *Diarrhoea*; so the *Diarrhoea* must be greater, because it is chiefly produced by the extraordinary Action

of the muscular Coats of the Stomach and Intestins.

It is not only of the Nature of a *Diarrhœa* that a sick Person goes more frequently and with *Gripping*; but his Stools are likewise *liquid*, and of a loose Consistence: which is a pathognomonick Symptom, and is indeed the general Symptom including every kind of Loosness, and ought on that Account to be very particularly explained. However, we cannot have a more sensible and obvious Notion of any thing, than we may have of the Loosness of our Stools; and that by recollecting the true State of these Matters in the foregoing Chapter: For we have it there lively represented what the Condition of our Aliment is after it has undergone the Labour of the Stomach. Here it is reduced to a Substance as liquid as we commonly find the Stools in time of a Loosness, in a *Diarrhœa*, or in any other kind of Loosness. And therefore if this concocted Aliment was sent out of the Stomach, and was expelled out of the Intestins under that Form, we should have loose Stools.

On the other Hand; as that is never the Case, because part of the Chyle is always driven into the *lacteal Vessels* in the greatest, and most violent *Diarrhœa*; so these loose Stools are produced by some other Means: which
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Means are likewise obvious, by considering the Liquors that pour in great abundance into the *Guts*, or are secreted plentifully at their *Glands*. Not only the *Gall*, and the great Quantity of the *pancreatick* Liquor poured into the *Duodenum* are sufficient to furnish the Loosness of our Stools; but the plentiful Supply of Liquor from the *Glands* of the *Guts*, especially of these in the *Ileum*, does more than answer the loose Stools we daily observe: and therefore the Loosness of Stools (the Symptom that bears very justly the Name of all the Kinds) is very manifest.

In Consequence of what we have mentioned, we need not wonder, that *Gall* is often found, in great abundance among the Stools while Men are ill of a *Diarrhoea*. It is a Liquor necessary in the Oeconomy of the Body in times of Health, and conduces to the Support of it: and we now see that it gives us a *Loosness*, when it exceeds, either in its Quantity, or its Sharpness. It is no Wonder then that the *Gall*, a Liquor of a deep Dye, that is poured into the *Duodenum* continually by the *Ductus communis*, should be found among our Stools: more especially when its Quantity is become greater than natural.

Another Symptom, *the Stools being full of Slime*, common enough in a *Diarrhoea*, may be very easily conceived, if we recollect the

the Account in the foregoing Chapter: for there we are taught a particular Secretion, in the great Guts, of a mucous and slimy Substance, which always besmears their inner Surface, and seems to be designed for covering and defending them; besides some other great Purposes and Ends of Nature. Now as this *Mucus* or *Slime* is easily discharged from its *Cells* and *Lacuna*, in any violent Contraction of the Intestins, or when their Contents are driven along them with greater Impetuosity; therefore, in time of a Diarrhoea, the Stools are very commonly filled with *Slime*.

Tho' this is the most constant Cause of Slime appearing among the Stools when Men are ill of a Loosness; yet many other things yield this Jelly and mucilaginous Substance, *viz.* ill digested Food, especially if that is of Offals, Bread, &c. all which sometimes occasion our Stools to be found mixed with *Slime*.

Among other Symptoms of a Diarrhoea, the Stools are found very watry, and sometimes *nothing but Water passes by Stool*. The Reason is evident; for if either the Glands in the small Guts are much stimulated, the Secretion of the Liquor at these Glands will be greater; or if a greater Quantity of the serous Parts of the Blood is separated in the mentioned Glands, by the general Laws of Secretion;

Secretion; then, and in that Case, the Quantity of Water separated at the Glands of the Intestins, may be near the Quantity of the Water discharged by insensible *Transpiration*, and the Quantity discharged by *Urine* together: Which Quantities, together with the natural Secretion at the Glands of the Intestins, fully answer the Quantity of watry Stools in a *symptomack*, or even in a *colliquative Diarrhœa*.

This is plainly the Case, if we consider either what is said about the Doses of *purging Medicines* in the *Solution* of my Problem, or what passes in this kind of *Loosness*; for the Quantity of *Urine* is not only defective; but there is likewise no manner of *Gripping* in the Course of this *Loosness*; which should otherwise be, as has been already shewn. This Store is so great, that we do not want the Addition of the *pancreatick* Liquor, even tho' we should conceive it proportionably augmented. The learned, ^a *Marcel. Malpighius* thus expresses himself on this Occasion, *Evacuationem etiam in Intestinorum oblongo Tractu fieri juvantibus minimis glandibus, cæterisque vasorum generibus in Meipso experior; nam flante Austro excitatur in me toties Lassitudo, Carnium Turgentia, & Liquidis copiose solvitur Alvus.*

^a Epist. ad Jac. Ruff. Tactus Organo.

But

But the first, I think, that has observed this watry Loosness is *Carolus Piso*, when he treats of the Diseases of the lower Belly, that proceed from an overflowing of Serum; but more particularly when he treats of a *serous Diarrhœa*. This Author observes, that in the middle of the Autumn, about which time the wither'd Leaves begin to fall from the Trees, if Men are not careful to have warm Cloaths, and to guard against the Injuries of the ambient Air; they will find themselves attacked and followed for some Days with liquid and watry Stools; which are likewise, often, bilous and like Clay.

^b *This Year*, says *Piso*, *as also last Year*, *about the end of August*, when the Weather was very changeable as to Heat and Cold in the same Day, I found that very many of the Students (especially those that plyed their Books harder than their Cups) who were not careful to cover themselves in the fore Part of the Night, were very subject to the watry Diarrhœa, which commonly held them four, or seven Days. The 65th Observation is of a Diarrhœa of the watry Kind, that held himself a Fortnight.

These Observations truly confirm what *Piso* has asserted, *viz.* that a cold Season,

^a Sect. iv. cap. 1. Ponte ad Monticulum 1618. Lotharingæ.

^b Observ. lxiiv.

especially

especially if it comes suddenly, is the Cause of a watry *Diarrhœa*; which Cause plainly produces this Effect in the Way I have lately shewn. Whereas the Account here given, by *Piso*, about the Power of cold Air to produce a watry *Diarrhœa* is equally precarious and false.

Hence it is, that his Prognostick of this kind of *Diarrhœa* is against Experience; and his Method of curing a watry *Diarrhœa* can never have any good Effect. The keeping in a warm Place is well advised, and may be drawn from his Principle, though that be false; his Indication for drying the Blood, and carrying it off by the *Kidneys* is altogether impracticable; and the Means for doing it are altogether insufficient for that End. But this will be more properly considered hereafter.

Piso was well apprized, and informs us of a watry *Diarrhœa* that attends sundry Diseases: which is easily understood by the Account I have given of it; but will not follow from his Explanation of that kind of *Diarrhœa*.

Piso tells us of the *Diarrhœa* following the *Gout*, and, as he, with the Physicians in his Age, believed that Disease flowed from the Head; so he calls this *Diarrhœa* with the *Gout*, a *Diarrhœa* from a Flux of Water from the Head upon the Bowels.

The same Author bids us observe that *bilous* and *watry Stools* will take People in the beginning of continual Fevers, not only seven or fourteen Days ; but even for forty Days. The Reasons he alledges for this Circumstance of a *Diarrhœa* are false, and the Signs of his Cause are improper, as well as inconstant, in Cases of a *Diarrhœa* that attend a Fever.

There is not any thing more certain than that a *Diarrhœa* of different Sorts accompanies a Fever ; but the Reason of it was never before understood. The learned and excellent Physician *Anusius Foësius* was so mistaken about the Cause of a watry *Diarrhœa*, that he charges the great *Hippocrates* with being obscure when he speaks of this kind of *Loosness*. *Hippocrates* had averr'd, that ^a in a hot Fever, when there is outwardly a Chilliness and a Shivering, with frequent Stools like *Water*, there is Danger portended to our *Eye-Sight*: but especially, if the Sick is seized with a deep *Stupor*, which is called a *Catochus*. Yet it is plain, by what is said of the Nature of a watry *Diarrhœa*, that there is nothing incongruous or obscure in this *Aphorism* of *Hippocrates*; which was only obscure through not knowing the necessary Cause of a watry *Diarrhœa*.

* Coac. Prænot. 134. Prædictor. 81.

The learned *Piso* relates sundry Facts of a watry, and of a bilous *Diarrhoea* that has followed People for a long time ; but the Reasons he assigns for these Facts are altogether insufficient, and the Prognosticks will not answer his Hopes. His Case 74th is very well worth our observing more particularly. I have observed very lately, says *Piso*, that such a watry *Diarrhoea* returning at times to a Jesuit, put a Stop for some Months to an *Ascites* that had held him a long time, which swelling afterwards fell and entirely vanished by a regular and exact Diet. This Observation confirms what *Hippocrates* ^b has formerly taught.

When the *Stools* are filled with a *blackish Humour*, is a Symptom, Authors have found difficult to explain, though it often happens in a *Diarrhoea*. I will not take any notice of a Blackness our *Stools* receive from *Food*, *Drink* or *Medicines*; because this Blackness is altogether accidental, and does not sufficiently account for the Commonness of this Symptom ; and the Blackness, for that Reason, must generally be produced by some natural Humours in the Body, that are some way corrupted in the time of a *Diarrhoea*. And therefore we must again look back into the foregoing Chapter, where the State of

^b Coac. Præn. 457. 482.

the *Stomach* and *Intestins* was laid open to our View. We may find there that the *Gall* can give this Colour when it is corrupted; so that the corrupted *Gall* is a Cause of the Blackness in the Stools.

But if we further consider the villous Coat of the Guts; and that it wholly consists of the Termination of *Arteries* curiously wrought together: If, then, these Arteries are very much stimulated, they will discharge a Quantity of Blood; which Blood quickly corrupts and becomes *black*. In that Case, corrupted Blood intimately mixed with the Excrements by the same Power they are expelled, this black Blood is thrown out with the Excrements; or the Excrements are found full of a *blackish Humour*, as often happens in a Diarrhoea.

Such a Discharge of Blood from the Guts is so natural and, at the same time, so common; that it is frequently discharged without any considerable Irritation; as we find in *New-born Children*, and is truly their *Meconium*. And therefore these *black Humours* are altogether, or chiefly, owing to a Discharge of Blood, and its corrupting in the Guts.

Physicians observe that the Stools are *frothy* and huff up like Yeast, when Men are ill of a Diarrhoea; which Symptom is very obvious, and is of great use for shewing the State

State of the Sick under that Circumstance of the Disease. For *Froth* is only liquid and viscid Parts filled with Air. Aliment then insufficiently concocted, and unfit to pass into the lacteal Vessels, is viscid; which mixed with the Air in the Intestins, as well with the Air formerly contained in the Pores of our Food and Drink; and all these tossed together by the peristaltick Motion of the Guts, is necessarily beat into a frothy Substance. Besides, as *Fruit*, and other such Portions of Food, are Substances that are easily fermented; we may therefore conclude, that the Stools may not only be *frothy*, but may be vastly fermented and huff up to double the Space after they are out of the Body, as we commonly find.

The Difficulty in accounting for this Symptom occasioned it to pass for a particular Species of a Looseness; tho' we find that this is a very accidental *Symptom* only; and the Supposition of these Stools being full of Spirit or Air, which was likewise supposed to be bred in the Brain, obtained it the Title of *Cerebralis Diarrhœa*. But we shall speedily have occasion to consider this false *Diarrhœa* more at large.

We pass then to another Symptom that is reckoned as common in a *Diarrhœa* as any we have hitherto mentioned; though it is truly extremely rare: we must therefore con-

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clude, that some like Appearance has misled most Authors that have writ on this Disease. We are told that the *Stools* are full of *Fat* and *Grease*: But as fat and greasy *Stools* have very seldom been observed, so it is very hard to conceive how they should ever be so: for in the Account we gave of the *Guts*, we find nothing of *Fat* in their *Inside*, and how *Fat* without them can be conveyed into them, in order to be discharged with the *Stools*, is every way as hard to conceive as the first. We may conclude then that *mucous* *Stools* have always passed for *greasy* *Stools*; which Supposition will more readily be granted, that I have found many eminent Physicians in the same Error and Mistake. *Hildanus* is the only Author that gives us a true Account of *fat* and *greasy* *Stools*, as far as has occur'd to me; and in some thousands ill of a *Diarrhoea*, I have only met with one; which is still more surprizing than the sick Person mentioned by *Hildanus*. Now as these extraordinary Cases will be most acceptable to an ingenious Reader, and are of great use to Physicians; it will be necessary to relate them before we proceed further in the principal Inquiry.

The Case of *Hildanus* is not so much the Case of a *Loosness*, as of a great Quantity of *Fat* voided by Stool that makes it considerable

table and surprizing. * He tells us of a Matron of fifty Years of Age, that had long complained of a grievous Pain about the Region of the Stomach; and after all Remedies given by Physicians, and Empiricks, had proved ineffectual, she fell into a large Evacuation of *Fat*. She had vast Gripings and Pain about her Belly, and at last she voided above three Pounds of *Fat* in one Day, and recovered. This *Fat* was white, very pure, and inclosed in small Skins and Membranes, which were so many particular Divisions and Cells of *Fat*; but that had no manner of ill Smell. I leave it, says *Hildanus*, to any Man to judge where this *Fat* was bred and kept.

However wonderful this Account was thought by this excellent and experienced Surgeon; yet it falls very short of what happened to my self. In June 1718 I was desired to see Mrs. *Compton* a *Lincolnshire* Lady, who lodged in *Devonshire-street*, near *Red-Lion-Square*. This Lady was troubled with a Loosness about a Month before I visited her. She had a Loosness, or Diarrhoea, for all that Time, and the Jaundice. There was voided a great deal of liquid *Fat*, every Time she went to Stool, which harden'd on the Surface of the Stools when they cooled:

* Centur. iv. Observat. 47.

and if, at other Times, she stooped to make Water a good deal of this *Fat* run out by the *Anus*, and congealed upon the Edge of the Pot. This Fat was as white as white Wax, and when I melted it (as I often did in a Shell) was liquid like Marrow, without any Skin or Fibre among it. She could not lose less than an Ounce or ten Drams every Day, one Day with another: So that, at a moderate Computation, she did not lose less than sixty Ounces of Fat in that Time.

This Lady was recovered of her *Diarrhœa* and *Fat*; or of her Fat and greasy Stools. She was likewise in a fair way to have been cured of her Jaundice, when I was taken ill of a long and violent Fever; so that I never saw her more. She died while I was confined to my Bed; and was buried in so great haste, that I had not an Opportunity of sending a skillful Surgeon to search out these unknown Passages of the Fat into the Guts.

However extraordinary, and unaccountable, this Symptom of fat Stools appears now to be; yet it has not only been reckoned among the common Symptoms of a *Diarrhœa*, but it has even constituted a distinct Species of that Disease, in the Accounts of all Authors, and bears the Name of a *Colliquative Diarrhœa*; wherein the Substance of the Body is supposed to be melted down,

as the Name of that supposed Sort imports; and that by *Heat* or *Fire*, the common Means for melting *Grease* and *Metals*. Some Authors alledge, that this Symptom is frequent when the *Bowels* are inflamed, when a Man is ill of a *burning* Fever, a *hætick* or a *pestilential* Fever. But as Experience does not vouch for these Observations, I will not insist on any further Account of them. I am more particularly sensible of a common Error about the Water of hætick People, which often carries a *Skim* that *Authors* very *absurdly* call Fat; but this concerns not the Symptom of greasy Stools under our Consideration at this Time.

I am likewise sensible of the great Decay of Flesh in the Time of a Diarrhoea, which is very far from being melted away; and this Symptom shall soon be accounted for in its proper Place, without any want of *Heat* for a Cause of wasting by the Violence of a Diarrhoea; which Account will inform us of a Method of Cure without having any Regard to such precarious Causes.

I should proceed, in the next Place, in explaining the remaining Symptoms we meet with in the Practice of a Diarrhoea: But as they are nothing so constant, as these I have already accounted for, it will be proper to draw one very useful Inference before we attempt any further Explanation.

It is evident, then, that the immediate Cause of a Loosness must either be a quicker Conveyance of the common Quantity of concocted Food, and of such Liquors as are usually mixed with it in the Guts: Or, the Cause of a Loosness is a greater Secretion than ordinary, of a watry Substance, from the Blood, by every Kind of Glands in the Guts, or is brought into them by the Pancreas. In both which Cases there must needs be a larger Discharge of liquid Excrements by Stool than usual.

For in the ordinary State of Health the thinner Part of the *Aliment*, after being concocted in the Stomach, passes into the *Lacteals*, and there remains only the grosser and thicker Parts, which are to be voided by Stool; and therefore while things remain in this State, there cannot be a Loosness. But if the *peristaltick* Motion of the Guts should happen to be encreased from any Cause whatever, that affects the muscular Coat, or stimulates the nervous, the Aliment must needs be protruded with a greater Force and Velocity through the Guts; and, consequently, less of it can be squeezed into the lacteal Vessels: And in this Case the thin Matter, which, in the ordinary State, passes by the Lacteals into the Blood, now mixing with the Matter that is to be voided by Stool, increases its Quantity and renders it liquid. Moreover,

ver, if we should suppose the thin Parts of the Aliment to pass, as usually, into the Lacteals, but there should happen, at the same time, a much greater Derivation than ordinary, of a fluid Substance, from the Blood into the Guts; this Matter will change very much the natural Consistence of the Stools, and increase their Quantity; both which, being in the time that the peristaltick Motion of the Guts is increased, the Stools will pass quickly through them. But if the Liquor is likewise stimulating, this Effect will still be greater and more sensible.

Thus the *Nature* and *Essence* of a *Looseness* appears from this plain Account; more especially that of a *Diarrhœa*. We will consider next other *Symptoms* of a *Diarrhœa*, which want due Explication; because a good Account of them does not only confirm what has already been shewn, but will be mightily assisting to Physicians in curing a *Diarrhœa*, under the Circumstances of these Symptoms; which often occasion a great Change and Variation from the general Practice of the Disease.

It is observed that People, ill of a Diarrhœa, lose their *Appetite*; or that, frequently, they have not a Desire to eat. The Reason is obvious, if we consider, that our Desire to eat is occasioned by the Emptiness of the Stomach, and when it is stimulated by

the Liquor that helps Concoction, or by the mutual Contact of its own Sides. When therefore there is any Defect of this Liquor, especially in its Quantity, or that the Food does not go well out of the Stomach, as we find both happen when Men have a Looseness; it is manifest why Men *lose their Appetite* when they have a *Looseness*. Besides, this Liquor in the Stomach is often so vastly altered by the Increase it sometimes acquires, that it becomes equally unfit for Concoction and exciting an Appetite, or a Desire to eat.

People have a *Fever* when ill of a *Diarrhæa*. This Symptom, as I formerly observed, is not constant, but many have the Disease without a Fever; though a *Diarrhæa* and a *Fever* have many Properties of the Blood common to both: So that each of these Diseases are often Symptoms to one another, when either of them is an essential Disease: For a *Fever* consists in a greater *Velocity* of *Blood* than natural, and sometimes there is a *Heat* greater than natural. It has likewise been shewn², that this greater *Velocity* of Blood and its *Heat* were occasioned by an Interruption in Transpiration; and it is now manifest, that an extraordinary Secretion of watry Parts into the Guts (the Effect of an impeded Transpiration,) is the Ma-

² See Diseases, pag. 72.

terials of a *Loosness*, and of a *Diarrhœa*; and therefore this Impediment of Perspiration being common in both Cases, it is evident why a *Fever* is often a Symptom of a *Diarrhœa*.

It is on the same Account that the Pulse is often such as we find in Cases of a *Fever*; for the Pulse at all times gives us the *Force* and *Quantity* of Blood in a Man, or shews us the present State and Condition of a Man in Health and Sicknes. It has been observed, then, that the *Pulse* is often depressed in a *Diarrhœa*; and therefore by knowing the Reason why the Pulse is depressed, we have the present State of the Blood at this Period of the Disease. I have shewn, in ^a another Place, that the Pulse is *depressed*, when all the Blood impelled into an *Artery*, by the Contraction of the *Heart*, is not derived into the continued *Vein* in its *Systole* (or when the *Artery* is contracted) but that some Portion of Blood remains unexpelled, and makes the next Dilatation of an *Artery* pass over a smaller Space in the same Time. In that Case the *Artery* beats up our Finger with less Force, which weaker Impulse of the *Artery* against our *Finger* is a *depress'd Pulse*. But this Depression is only caused by a greater Quan-

^a See Diseases, pag. 55, 56.

tity of groffer Blood, as was likewise shewn ; which Thickness is caused by undue *Transpiration*. Now in Time of a *Diarrhæa* there is found the same Defect in Transpiration ; and therefore we may have a *depressed Pulse* when we have a *Diarrhæa*.

The *Pulse* too is often *little* and *weak* when a Man is ill of a *Diarrhæa*. The Reason is obvious ; for the Quantity of Blood is lessened by the Greatness of the Evacuation by Stools, and this Quantity of Blood is driven along the Vessels with less Force ; on both which Accounts the Pulse is weak. Let us first suppose the *Systole* of the *Heart* natural in its Force, and the Time of its Contraction. In that Case the Quantity of Blood being lessened, a smaller Quantity of Blood will be thrown into an *Artery* at every Contraction of the *Heart* : But the distending of an *Artery* is as the Quantity of Blood thrown into it at every *Contraction* of the *Heart* ; and the Quantity of Blood being less, because of a *Diarrhæa*, the *Arteries* are less distended at that time ; or, in time of a *Diarrhæa* the *Pulse* is *weak*. Besides, it is because of this Evacuation out of the Blood, that the *Systole* of the *Heart* is weaker ; the *Heart* being a *muscular* Machine that chiefly propels the Blood. Now the Contraction of the *Heart* is weak by the Loss the Blood sustains in a *Diarrhæa* ; and therefore the
Blood

Blood will be driven out of the left *Ventricle* of the *Heart* with less Velocity; as also there will be a smaller Quantity of Blood impelled into the *Arteries* in the common time; and on that Account they will be less distended; and therefore, as formerly, the *Pulse* is often *little* and *weak* while Men have a *Diarrhœa*.

We will next proceed to consider the Affections of *Urine* in time of a *Diarrhœa*. The *Urine* is that secreted Liquor we can examine the best, and that does most truly discover to us the State of the Blood; especially its *Thickness* and *Thinness*. Now we find it observed by Physicians, that People, ill of a *Diarrhœa*, make less *Urine* than natural. This is necessary; for as the Liquidness of the Stools is often occasioned by an extraordinary Quantity of the *Serum* of *Blood*, and the *Serum* of *Blood* being the watry Part in the Composition of *Urine*, and therefore a Quantity of *Serum*, greater than natural, being voided when we have liquid Stools, or in time of a *Diarrhœa*, the Quantity of *Urine* thro' the Course of the Disease must be less than natural; as is always observed.

Yet the *Urine* not only commonly continues in its *natural Colour* in time of a *Diarrhœa*, but is likewise of a *higher Colour* than natural, or is *lixivial*, in the Language of some Physicians. For better understanding
this

this Symptom, we must remember that the Composition of Urine is of the forementioned *Serum* of Blood, of *Earth*, and of a particular *Salt* in Urine, in certain and known Proportions. Now if either the Quantity of *Serum* is less than in the natural Composition of *Urine*, or its solid Parts are in a Proportion greater than natural, the Colour of *Urine* must be higher than natural; and therefore in the first Case, where the Colour of Urine remains natural during a *Diarrhœa*, the Quantity of its Solids is likewise separated in a Quantity smaller than natural; for the Colour of Urine remaining in a natural State, while the Quantity of Urine is less than natural, the Quantity of Solids are in a due Proportion in Time of a *Diarrhœa*, or the *Water* continues to be *natural* during that time. Thus we may understand why the *Urine* is *paler* in time of a *Diarrhœa*. On the other Hand, and what is very common, the Urine is of a *high lixivial* Colour in time of a *Diarrhœa*: For the Quantity of Serum being carried off in liquid Stools, the Quantity of Serum separated in the Kidneys is less than natural. If then a natural Quantity of the solid Composition of Urine, passes out of the Kidneys with a Quantity of Serum less than natural, the Colour of Urine must be lixivial and higher than natural; or in a *Diarrhœa*, where there is

Is so great and preternatural a Discharge of *Serum* into the *Guts*, the *Colour* of the *Urine* must be *high* and *lixivial*.

These are the great Symptoms or Changes of the *Pulse* and *Urine*, while Men are ill with a *Diarrhœa*; and, as they are now explained, are of the greatest Use imaginable in discovering to us the Nature of a *Diarrhœa*, and confirm every other Symptom already explained; as well as in leading us into a true State of the Disease, as in forming the truest and most effectual Methods of curing it. We will, in the next place, consider the dismal Consequences attending the continuing of a *Diarrhœa* for any Time on a Man, and by what Steps Men are carry'd into numberless Calamities by a *Diarrhœa*; which often find their End, and Men their Relief, in *Death*.

It is a Saying of the elegant *Latin Hippocrates, Cornel. Celsus*, that a *Diarrhœa* may keep upon a Man seven Days for his Benefit, when there does not a Fever attend it. Now, by this Account given of the Nature of a *Diarrhœa*, we are fully apprized how far this *Aphorism* is true; and of the Kind of *Looseness* that admits of so great a Delay, without any Detriment to, and even for the Benefit of, the Sick. In short, no Kind of *Looseness* but what voids great Quantities of various and unconcocted Humours, can continue with Advantage to the Sick, every other
Diarrhœa

Diarrhoea getting Strength by its Duration; for the longer they last, the more violent and irremediable they become: Whereas these unconcocted Humours may be discharged in the frequent Stools, and the Sick find the Benefit of these Stools, in the Recovery of their Health.

However this Observation of this elegant Physician has been abused, either by misunderstanding it, or by Physicians turning it to serve profitable Ends, it is very certain that that excellent Author never designed that a Physician, in any Age, should leave the Weight of this Disease upon Nature for seven Days, without attempting to bring any Relief in that Time. *It is often for our Health, says Celsus, to have a Loosness for one Day; and for more too, provided there is not a Fever, and that it gives over before the seventh.* His Reason for the Benefit of a Diarrhoea is the very same I assigned from obvious Principles; *Because, says he again, the Body is purged, and that is now profitably voided which must have hurt us, if it had been kept in our Body.* But however profitable a *Diarrhoea* may sometimes prove, in the Opinion of *Celsus*, yet it ought to end *before the seventh Day*, and to be *without a Fever*, when it is *tolerably safe*. Otherwise *Delays*

* Lib. iv. cap. 19.

may be dangerous; for in that Case the Diarrhœa occasions a Bloody-Flux and Fevers, and consumes the Strength. And therefore there is always great Danger when Symptoms of this Nature shew themselves; as the same great Physician assures us, in his second Book: so that a Delay in curing a Diarrhœa is never to be justify'd. *If, says he, a Fever attends a Loosness, an Inflammation of the Liver, immoderate Drought, &c. there is great Danger of Death.*

In this dangerous State, Physicians are highly to be blamed for neglecting this excellent Advice of the great *Celsus*; but far more, when they cover themselves under this excellent Rule, and prolong the Cure, or keep off better Help, on any lucrative and mercenary Account; for Delays, we see, prove fatal in this Case: and if we consult the following Part of this *Chapter*, we find there his Method of curing in the second, third, and other Days, thro' the Course of the Distemper; quite otherwise than those Physicians represent Matters on this Occasion.

It is certain, as all the Advantages that can possibly be pretended for suffering a *Diarrhœa* to continue for any Time, may be had by an ordinary Purge; so a prudent Physician may attempt the Cure of a Diarrhœa at any time, without any Imputation on him for doing so; and no Physician can answer
for

for the Consequences of Delay, as will appear more at large, when we consider the *Designs* and *Indications* of curing, that will arise out of this Doctrine.

This Observation is so well known to all good Physicians, that *Avicenna* tells us expressly, *There is great Danger in every Sickness that begins with a Looseness*. This is not only true in *Fact* and *Experience*, but is evident from our foregoing Account of the Symptoms of a *Diarrhœa*: For when a great Quantity of *Serum* is separated, at the Intestins, from the Blood, as we find there often is in the worst Kinds of a *Diarrhœa*, the Blood is then in a very weak State; as it will further appear, when we enquire into the Causes of a *Diarrhœa*; which Weakness of the Blood increases by the *Diarrhœa*. And therefore our Blood is in an extraordinary ill State, when a Disease begins with a *Diarrhœa*; more especially that the ill State of the Blood, when any Disease is formed, becomes worse by a *Diarrhœa*; which is then a Symptom of that Disease. This Observation then of *Avicenna* and *Physicians* is very reasonable, and forbids our trusting to a *Diarrhœa* for carrying off that Disease.

These general Followers of a *Diarrhœa* being considered, we proceed to more particular ill Consequences of a *Diarrhœa* holding Men for a Time. And first, there is a manifest

nifest and sensible *Loss of Flesh* in the Person that has been long afflicted with a *Diarrhœa*. Our Flesh, it is known, chiefly consists of Vessels filled with Blood; and our keeping our Flesh is nothing else than these Vessels keeping to their natural Fulness of Blood. Now, as this Blood is every Minute decaying, the Vessels will become empty, or Men lose their Flesh, if this Decay is not supply'd by new Recruits for the Blood; and the Decay will be quicker and greater according to the Evacuations from the Blood, or of any Part of its Composition; and therefore, whatever the Discharge may be from the Blood, the Loss of Flesh will be proportionable to the defective Supply the Blood receives.

In a Diarrhœa, then, we found the concocted Food thrown out of the Body in *gripping* Stools; and consequently a great Part of the common Supply carried off another way: In that Case, the Decays of the Blood are not repaired; and therefore, there must be a *Loss of Flesh* when the Blood has been, for some time, deprived of a Supply for repairing its Losses, or in the time of a *Diarrhœa*.

Moreover, we found that the Bulk of Stools in the worst Kind of a Diarrhœa was a Discharge from the Blood; and therefore, in this extraordinary Discharge from the Blood, it must suffer a most prodigious Decay; the

E Quantity

Quantity discharged being vastly greater than natural, and the Repair less than natural; and therefore, in the Course of a Diarrhoea, *Men lose their Flesh.*

From this Account of the Loss of Flesh by a *Diarrhoea*, the next Symptom that succeeds, by its long continuing, becomes very manifest; for, by the Loss of Flesh we become *weak* and are *faint*. Now as our Strength consists in a Fulness of our Muscles, and of the Fluidity of our Blood conjunctly; whatever destroys the Fulness of the Muscles, or the Fluidity of the Blood, or its Quantity and Fluidity, at the same time destroys our Strength; and as *Weakness* to Fainting is the reverse of our Strength; therefore whatever destroys the Quantity and Fluidity of Blood renders us *weak* and *faint*: But, by the foregoing Account, the Blood is not duly repaired when we have a Diarrhoea, and the Quantity of Stools is often owing to great and extraordinary Discharges from the Blood. It is, then, evident, why Men are *weak* and *faint* in the Course of a Diarrhoea. Moreover, the Blood in time of a Diarrhoea is likewise thicker; and therefore, for both Considerations, of the Quantity and Fluidity of Blood being lessened, Men are *weak* and *faint*.

This Account explains likewise the *Little-ness* of the *Pulse*, and its being *vermicular*

lar in the continuing of a Diarrhoea ; for the Pulse is great or little, in Proportion to the Quantity of *Blood* impelled into an *Artery* every time the *Heart* is contracted. Now, as the Discharge from the Blood has already been found to be very considerable, and the natural Quantity of Blood extremely impaired ; so the Quantity of Blood impelled into an Artery, at every Contraction of the Heart, must be very much less than natural ; and the Pulse being as the Quantity impelled, the *Pulse* in time of a *Diarrhoea*, whereby the Quantity of Blood is impaired, becomes *little*.

But after the Discharge has been great, and for a long time, the Pulse has been *vermicular*, or like the crawling of a *Worm* : For when a Worm has its progressive Motion, there is a Drawing and Swelling in its forward Part, and a Lankness, and Emptiness in the other, which this Pulse fitly resembles. But as this particular Pulse has never been sufficiently explained, nor is this the proper Place for doing it, I shall not insist on it at present, further than that it denotes the smallest Force in an Animal, as well as a great Loss of Blood ; both which are obvious from what has been said. I know the learned and excellent *Bellini* questions the Reality of this Pulse, and thinks it rather owing to the Manner the Pulse is felt, than

to any distinct Affection of an *Artery*; which is truly a Mistake of that great Person.

Other Distempers are made by the continuing of a *Diarrhœa* for any considerable time; and *Hippocrates* has long ago informed us, that a *Lienteria* and a *Passio Cœliaca* follow a *Diarrhœa*. In the first, our Aliment passes through us, without having any great Change made on it, very near as we took it down; but in the last, the Quantity of Aliment almost intirely goes through us, tho' it be somewhat concocted. We cannot consider this Affection of the Guts any otherwise, at present, than as the *Lienteria* & *Cœliaca Passio* are Symptoms that succeed and follow in the Course of a *Diarrhœa*, though hereafter they will be more particularly explained; because Authors constitute them a Species of a *Loosness*, and therefore, as the Aliment is either altogether unconcocted, or very little concocted, it is far from being liquid: yet it is thrown out of the Body, at several times, and often in a Day. This happens, by the general Corollary of this Chapter, from the peristaltick Motion of the Guts being encreased, and that by stimulating the muscular Coats of the *Stomach* and *Intestines*; which is the only Cause whereby the Aliment is protruded with a greater Force and Velocity through the Guts; or that Men have

have a *Passio Cœliaca*, or *Lienteria* in the time of a *Diarrhœa*.

It is on this very Account of a *Stimulus*, or of the Sharpness of Excrements, that Men have *bloody Stools* succeeding a *Diarrhœa*, or that a *Dysentery* follows a *Diarrhœa*, as *Hippocrates* has observed; as also, that it is an ill Sign when a *Dysentery* follows a *Diarrhœa*. It will hereafter appear, that violent *Griping* attends a *Dysentery*; insomuch that the learned *Celsus* denominates the Disease in the *Roman Language* by this Symptom: But if we consider that *Griping* is a Symptom of a *Diarrhœa*, and has already been explained as such, it will likewise be easy to conceive, that *Blood* must follow by the *Griping* only continuing, and far more, when the *Griping* is become violent, and to a greater Degree, as well as by its continuing. Formerly it was shewn, how *Griping* brought off the *Mucus* from the Guts, and that it was thrown out among the Stools in a *Diarrhœa*; and if we now consider this great Apparatus and Caution of Nature in covering the far greatest Part of the Guts with this Slime, and in defending them from the natural Sharpness of the Excrements, we shall become quickly apprized of the great Hurt that ensues the Loss of the *Mucus*. The Sharpness then, not only provokes Men to go more frequently to Stool, as was shewn,

but in the same Manner it destroys the Mucus, it does in some Measure tear the *velvet Coat* of the Guts : But the velvet Coat of the Guts is altogether a Congeries of Blood-vessels ending in the inner Surface of the Guts ; and therefore, the smallest Breach in these Vessels will occasion a Discharge of Blood, which Blood being blended in the Guts with the Excrements, and thrown out in them, when Men go to Stool, there is a *Loosness* with Blood in time of a *Diarrhœa* ; or, a *Dysentery* often follows a *Diarrhœa*. This Accident is a very ill Sign, because it is the Effect of an extraordinary Sharpness, and is a Loss of Blood ; the first, shewing the Encrease of the Stimulus of a *Diarrhœa*, or of its Griping, and the last, shews that the *Diarrhœa*, under these Circumstances, is still more dangerous by the Loss of Blood ; so that it is always an ill Sign, or that the *Diarrhœa* is worse, when it is followed with a *Dysentery*.

What *Hippocrates* afterwards observes, looks more paradoxical ; that People should become *dropical* after being long ill of a *Diarrhœa* ; for a *Dropsy* is commonly made by an exuberant Quantity of *Serum* in the Blood ; and that a *Diarrhœa*, where there is an extraordinary Discharge of *Serum*, should be the Cause of a Dropsy, may indeed appear contradictory ; very surprizing at least ; But, says

says *Hippocrates*, ^a *Serapis* swelled, or became dropfical, after a moist and liquid Belly, or after a *Diarrhœa*. Now there is nothing paradoxical in this Observation; and if we consider that it is the Thickness of a Liquor, and its not being duly propelled, that makes it subsist in any Part, and occasions a Swelling, it will be very plain and obvious why Men swell in a *Diarrhœa*, or become dropfical by its continuing. By what has been said, we find the Force of the Blood, and of the Heart, vastly destroyed, and that a great Thickness of Blood is frequent in a *Diarrhœa*; and therefore it is very obvious, how Men are dropfical in the Course of a *Diarrhœa*. This is sufficient at present; tho' there are particular Reasons why this Swelling is rather in the *Abdomen* and *Legs*, than in any other Parts of the Body: But such Considerations can only be made evident in treating the Nature of a *Dropsy*.

After all, we need not wonder that a Disease wherein we discharge *Life* with our Blood, and wherein all the Recruits of our Blood are cut off, should end in *Death*, when no Relief nor Stop can be put to the Progress of a *Diarrhœa*. For what is *Life*, besides the Circulation of the Blood? And how should the Blood circulate, when its

^a Lib. 2. Epidem. Sect. 2.

Quantity is run off in Stools, and its Spirits too few to flow into, and contract, the *Heart*? We very lately found Men lost their Flesh in the Course of a *Diarrhoea*, that their Pulse was *weak*; and, next to their having no Pulse, that it was *vermicular*; and it is but the Consideration of a Stool or two more, when the *Heart* ceases to *contract*, and our Pulse to beat, and that *Death* puts an End to the miserable and nauseous Scene of a *Diarrhoea*.

Having thus from the *Symptoms* of a *Diarrhoea*, discovered the *Nature* and *Essence* of a *Diarrhoea*; and from this Discovery, the *Symptoms* that *succeed* a *Diarrhoea* have been manifestly explained; as also many Errors, unavoidable in mere Observation, have been rectified during this Inquiry: I might draw many Consequences of use from this Account; but as the great End of all this Reasoning is, to discover the Nature of a *Diarrhoea*, so as to raise a better and a more perfect way of curing it, and to deliver Men from these irksome Disorders, as well as to stave off cold and hated Death; I proceed next to discover, what may be the *antecedent* Causes of a *Diarrhoea*; that we may be able altogether to avoid them, or early to prevent their ill Effects.

CHAP. IV.

Antecedent Causes of a DIARRHOEA.

IT is commonly observed that cold Weather, a rainy and changeable Season, precede a Diarrhoea. *Hippocrates* says, ^a *The Diseases most common in rainy Weather are Fevers, a Loosness, &c.* And afterwards, *Besides the mentioned Diseases, there are, in Summer, tertian and quartan Agues, Vomitings and Fluxes. Unwholesome Food often occasions a Loosness, and Meat hard to be concocted; as also, early and unripe Fruit, a too great Dose of a purging Medicine. Old People are subject to Fluxes.* *Hippocrates* alledges, that Air coming from the Head ^b *causes frothy Stools.*

Hippocrates has long ago warned Physicians against the Fallacy of Experience; for whoever has but the least Experience in Physick, must be sensible, that he has not made any great Number of Observations, before he complains of Experience being fallacious. Numberless Examples might be brought to confirm this Observation by Experience; but as we have already given some, in the fore-

^a Aphor. 16. Sect. 3. ^b Aphor. 30. Sect. 7.

going Chapter, and many more will occur in this; the Truth of what I alledge will speedily be made appear. What is already discovered, that every Loosness is produced universally by *stimulating the Guts*, or by *rendering the Excrements more liquid*, equally assists us in explaining the Causes, and in determining what is truly the Cause of a Loosness: For if any supposed Cause, appearing in time of a Loosness, does not excite the Motion of the Guts, nor renders the Excrements more liquid; it is certain, that this is no productive Cause of a Loosness, but is that Fallacy of a wrong Cause, being assigned for the true Cause; as Philosophers express themselves.

We proceed then to explain the *antecedent Causes of a Diarrhœa*, as they are commonly assigned by Physicians: And first, *cold Air* is a very common Cause of a Diarrhœa; for it occasions an extraordinary Quantity of a watry Humour to be separated from the Blood in diverse Parts of the Body. By the Coldness of Air, the Pores or Passages of the Skin are contracted; and thus are rendered more impervious to the Matter of Perspiration: But the Matter of Perspiration consists of the serous Parts of the Blood, and far exceeds all other Liquors, separated from the Blood, in Quantity; but, at this time, as it is unduly voided by the Smallness
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of the Pores, it is on this Account secreted at other Organs of Evacuation ; and the Discharges at these Organs will be increased in some Proportion to the Difference of the impeded Transpiration. It is likewise known, that when at any time the Secretion at the *Glands* of the *Skin* proves any ways defective, through the Fault of the *Glands*, or of their *excretory* Ducts, or Pores, the redundant Liquor is most readily separated at the *Glands* of the *Guts* ; and therefore, a Quantity of Water, greater than natural, being secreted at the *Glands* of the *Guts*, because of the Coldness of Air, renders the Excrements more liquid than they are naturally, and, on this Account, is the Cause of a Looseness ; as was manifest by the general Corollary in the foregoing Chapter : And therefore cold Air is truly and properly a Cause of a Looseness, as was supposed upon Observation. In the Winter 1708 the Frost was very strong, and at the same time there was a great Fall of *Snow* ; and a *Diarrhœa* was the common Disease in *London*, in the Months of *January* and *February*, that Year.

Not only cold and frosty Weather is found to be a Cause of a Looseness, but even *rainy* and *changeable* Weather have produced the Disease, by the Experience of Physicians. However opposite this State of Air is to the

the former. We know, that *rainy* Weather both thickens the Blood, and lessens its Velocity; and, on that Account, it lessens also the Quantity of Transpiration, which is always as the Velocity and Fluidity of the Blood. Now the Quantity of Perspiration being less, because of the Blood's thickness, the Difference of transpirable Matter will be separated at the Parts where the Blood is most fluid, and where watry Parts are commonly secreted: But these Parts are those nearest the Heart, where the first Separations are made from the Blood, after it is expelled out of the left Ventricle of the Heart; and the Guts being in the Number in this Vicinity, the Difference of this transpirable Matter, unsecreted in the Glands of the Skin, will be secreted at the Glands of the Guts. And therefore *rainy* Weather being the Cause of a greater Quantity of Water being discharged into the Guts, it is likewise the Cause of a Looseness; and that, because Excrements more liquid than ordinary are the immediate Cause of a *Looseness*, and is a *Looseness* it self; as we formerly proved.

Thus opposite and contrary Causes often produce the same Effects, when attended with small and different Circumstances; and this last Observation of a *Looseness* being occasioned by *rainy* Weather, is as obvious and reasonable, as that it is produced by cold,
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frosty

frosty Weather. A *Loosness* so constantly follows *Rain* in the *West-Indies*, that the People there say commonly, *It rains a Loosness*; and *Hippocrates* has long ago informed us, that the Diseases most common in rainy Weather are a *Loosness*, &c.

What *Hippocrates* adds afterwards is a very particular Observation, and is very constant to this Day in the Islands of the *Archipelago*, and in the *Mediterranean*. He says, that in *Summer* there are the mentioned *Distempers*, (of the Spring) and continual burning Fevers, and tertian and quartan Agues, Vomiting, and every kind of *Loosness*: For in small Islands, foggy, rainy, and changeable Weather being very common, a *Loosness* commonly produced by this kind of Weather becomes likewise common, as I have but just now shewn; as, on the other Hand, a *Loosness* and Summer-Agues are very seldom observed on the *Mainlands*, which are always more dry, and not so subject to *Foggs* and *Rain*.

The next antecedent Cause of a *Loosness*, alledged by Physicians, is *unwholsome Food*. Our *Food*, or *Aliment*, is then said to be *unwholsome*, when it either affords us little Nourishment, or that which is hurtful; which *Food*, under both the mentioned Circumstances, may cause a *Loosness*. In the first Case, Food of small Nourishment, abstracting

strating from its being very subject to corrupt and decay, is the Cause of a Loosness, when weakly Constitutions are not sufficiently supported by it; for then, the principal Secretion becomes defective, and, on that Account, Food of little Nourishment is the Cause of a *Loosness*, in the way that is now manifest from what has often been said.

But if our Aliment is *hurtful*, or becomes so, by filling the Blood with watry Humours, or by causing a great Discharge of Water into the Guts, or, lastly, by producing an extraordinary Quantity of *Gall*, and other stimulating Humours; our Food, I say, is then the Cause of a *Loosness*; because each of these alone, and of themselves, have been found to be immediate Causes of a *Loosness*, and must, on that Account, occasion it more powerfully when they work together. It must be confessed, that Physicians are not sufficiently acquainted with Food that have such Effects upon us; but they very well deserve our greatest Consideration. To give an Instance in things of daily and general use. Do we not find Physicians strictly forbidding the Use of *Veal* to their Sick of a Loosness, and recommending to them *Mutton* for their Diet? when *Veal* with all its Slipperiness has little Power to promote the Purging; and the Purging is powerfully promoted

moted by a Meal of *Mutton*, contrary to the common Rules of Physicians.

Hippocrates writes, that he is the first Person, who has considered the Power of *Diet*; which Work is of great use, and was always well esteemed, while Physicians regarded this Branch of Physick: But this third Mean of curing has been shamefully neglected of late. *Sanctorius* has left us many useful Experiments of the Effects of Food in Transpiration, in his excellent Treatise of *statick* Physick. Among many other Observations, he tells us, that it is hurtful to eat *Mushrooms*, *Hogs-flesh*, &c. It is an ill Custom, says that experienced Author, to eat *Swine's Flesh* and *Mushrooms*; both because they do not perspire, as also because they hinder the Meat we take at the same time, to perspire. And in the next *Aphorism*, he is particular in how much they hurt the Transpiration. The Body commonly perspires a third less, than at other times, by eating *Mushrooms* and *Swine's Flesh*. *Melons*, says *Sanctorius*, perspire so very little, that they keep off a fourth Part of the common Perspiration.

Thus the great Changes made in the Body by *Diet* is very manifest, by these few undeniable Instances: But if every thing we eat and drink hath such an Influence upon us in Health, how far greater must the Power of *Diet* be on us in Sicknes? By
Diet,

Diet, without doubt, we may be cured of many Diseases, as great *Señs* of *Physicians* have maintained : At least, then, proper *Diet* is always a great Help in the Cure of every Distemper. And as every Distemper may be conquered by proper *Diet*, so unwholsom and improper *Diet* is the great Support of every Disease. Thus well does the Matter of Diet deserve our Study and most serious Consideration.

Food *hard* to be *concocted* might have been comprehended in the foregoing Article ; because it yields little Nourishment, and is, for that Reason, the Cause of a *Looseness*. But besides that Consideration, Food of difficult Concoction very readily *corrupts*, and thus acquires a great Acrimony and Sharpness. Now, if by the Sharpness of what is contained in the Guts, their *nervous Coat* is stimulated, and their *muscular Coat* is more violently contracted ; but by this more vehement and more frequent Contraction of the Guts, their Contents are oftener expelled, and those Contents being Food hard to be concocted, have sent little Chyle into the Lacteals ; therefore, in the present Case, the Stools are larger, more liquid, and oftener expelled ; or, there is a Diarrhoea by Food hard to be *concocted*.

Under this Head of Aliment, *Fruit* is next to be considered ; more especially, Fruit that is
not

not ripe. It is the Experience of every Country, that *unripe Fruit* very commonly causes a *Diarrhœa*. Even Countries not otherwise subject to the Disease, feel these Effects of Fruit in the Season. *France*, viz. *Spain* and *Italy*, give many Examples of *Fluxes* in the *Grape-Season*, in time of the *Vintage*, and when the *Wine* is drunk very new: then a Loosness is very common, and very mortal. The Reason is obvious; for the *Juice* of *Fruit* gives a Quantity of serous Parts to the Blood, as well as increases its Lentor. Now the Quantity of Blood increased with a Lentor lessens Perspiration, and occasions a great Quantity of *Lympha* to be secreted in the Glands of the Guts; which extraordinary Secretion alone, while their peristaltick Motion is natural, we find is the *Essence* of a *Diarrhœa*. Thus *unripe Fruit* is truly an *antecedent Cause* of a *Diarrhœa*. Besides, all *unripe Fruit* is in it self sharp and stimulating, and the ripest *Fruit* becomes so by being corrupted; and therefore, as *unripe Fruit* excites the peristaltick Motion of the Guts, and at the same time increases the Secretion there, *unripe Fruit* is a most powerful *Cause* of a *Diarrhœa*. *Sanctorius* informs us, that *Grapes* and *new Figs* make *Men* perspire little, and hinder a little the *Perspiration* of other *Aliment*; because, perhaps, they make *sensible Evacuations*.

A dangerous *Loosness* has been observed to follow too *strong* a *Dose* of a *purging* Medicine. Purging by Medicines is making a *Loosness* for a small time; and the *Dose* of a purging Medicine, when it continues the *Loosness* to a longer time, has certainly exceeded the Strength of the Constitution. And therefore, as a *Dose* of a purging Medicine can carry on the *Loosness* to a considerable time, it may be very properly reckoned among the *antecedent Causes* of a *Loosness*. This Truth will appear more particularly, if we consider the Difficulties, nay, a supposed Impossibility, there was in finding the due Doses of purging Medicines, ^a before I taught Physicians the Method of finding them for every Constitution; especially if we consider, that I proved, that the Operation of purging Medicines is to make a greater Separation of watry Parts into the *Guts*; and therefore when the Dose of a purging Medicine is too strong for a Person's Constitution, it must carry on the *Loosness* too long; or it must make a *Diarrhæa*. This Inconveniency is quickly mended by a healthy Constitution, and a few Days redress the Error: But in other Constitutions, which are weakened by the Quantity of the Discharge, the Disease gets head, and increases by this

^a Philosoph. Transact. N°. 303.

Weakness,

Weakness, which is occasioned by the Evacuation.

This Error is often fatal, as well as very common, among the Practisers in Midwifry; and they frequently *miscarry* by giving Women extraordinary strong Purges after *Abortion*: for as they too commonly take Advantages of this weak Side of *Women*, and drench them, and their Purges, under a Pretence of cleansing their *Wombs*; they not only make use of the strongest Purges, but make no Distinction as to the Strength of the Persons that are to take them; and thus throw many *weak Women* into a dangerous *Loosness*, that often ends in a *Consumption*, and a *hectick Fever*. But this fond Conceit of the *fair Sex* for Men Midwives, is commonly as much past remedying, and without a Cure, as the Knowledge of these Practitioners.

What is thus explained leads us a little into the Reason, why *old People* are commonly subject to a *Diarrhœa*; and that *old Age* should be an *antecedent Cause* of it. For in *old Age* the Vessels are harder, and the Liquors of the Body are thinner: the first is evident, and the last is manifest by my Account of the Doses of purging and vomiting Medicines. In the first Case, the *Arteries*, being hard by Age, become a mighty Resistance to the moving Blood. More-

over, *Arteries* lose their Springyness by their Hardness, and the Blood its Velocity. But the Blood losing its natural Velocity, the Quantity of transpired Matter is less than natural, and the *Stools* are rendered more *liquid* than natural; or we have a *Loosness*. Besides, the Blood in *old People* being thinner, and more watry, than is the Blood of young People, and less of that Water being voided by Perspiration (as has been shewn) the Quantity of watry Parts *secreted* at the *Glands* of the *Guts* must be much greater than natural; and the *Stools* become much more liquid, *b. e.* Men, because of *old Age*, are very subject to a *Loosness*; or *old Age* is an *antecedent Cause* of a *Loosness*.

^a *Hippocrates* alledges, that a *Loosness* with *frothy Stools* comes from the Head. I have already accounted for the *Stools* being *frothy*, and their fermenting; but at present it will be useful to relate what *Hippocrates* would teach us, when he asserts, that the *Cause* of *Froth* is bred in, and proceeds out of, the Brain. The *Brain*, according to ^b *Hippocrates*, is the *Seat and Matrice* of what is cold and glutinous; and it is the common Reasoning, that every Disease having its Origin from *Phlegm*, or any cold Humour, comes from the *Head*. But as the

^a Aph. 30. Sect. vii. ^b Lib. de Carnib. pag. 208, 209. Fœf.

Supposition of *Phlegm* and *cold* Humours being bred in the *Brain*, and the Conveyance of these Humours into different Parts of the Body, in forming Diseases, is false and impossible, we will not pursue Notions of this Kind; however common this kind of *Theory* be still among Physicians. *L. Riverius*, and other Physicians, who were persuaded that the Cause of the *Frothiness* of *Stools* might be found in the *Stomach* and *Intestins*, have long ago questioned the *Diagnostick* of the *Aphorism*.

Hippocrates likewise tells us, ^a that the *Heart* is the *Fountain of Blood*, the *Spleen* of *Water*, and that the *Liver* is the *Place of the Gall*; from all which, in the Opinion of Physicians, flow several Species of a *Loosness*. If a *Diarrhœa* proceeds from a Fault of the *Liver*, there are Signs of a *hot* Indisposition, of *Inflammation*, of an *Obstruction*, or of some other *Affection* of that Part. When the *Spleen* is charged with a *Diarrhœa*, there is supposed to be a *Swelling* and *Tenseness* in the left *Hypochondre*, or a *Weight*, or else a *Pain* in that Part; and the *Stools* are *black*. But if the *Mesentery* raises a *Diarrhœa*, in that Case a *thick* and mucous Substance is voided at Times, especially in the Day time. So far have Authors been mis-

^a Lib. 4. de Morb. pag. 502.

led by these false and partial Causes of a *Diarrhæa*, that they have not left any blameless Part, besides the *Heart*; and even the *Womb* is sometimes supposed to be the Cause of a *Diarrhæa*, which we may know by a *Suppression* and *Stoppage* of the *Courses* at that time, as well as by some other Affections peculiar to the *Womb*.

Now as none, almost, of the mentioned Parts breed any of the supposed Humours, neither have they any Communication with the *Guts*; so it is manifest, that these alledged *antecedent Causes* are not truly *Causes*. Thus we may judge of any other Cause that, at any time, may be supposed to be the Cause of a Looseness; and determine, whether it is a sufficient Cause, or not. The Signs of these Causes are as obscure as the Causes are false: For to mention one Instance only; Why must there be a *Stoppage* in a *Woman* that is ill of a *Looseness*? or, Whether is it more natural to assign a *Diarrhæa* for the Cause of the *Stoppage*, or this for the Cause of the former? A *Diarrhæa* running long upon a *Woman* lessens the Quantity of her Blood, and destroys its Force; so that a *Diarrhæa* may truly produce a *Stoppage* of a *Woman's Courses*; but a *Stoppage* of them can never occasion a *Diarrhæa*.

Authors

Authors necessarily fall into these and such like Mistakes for want of a Method of reasoning, and are unavoidable, when they collect Symptoms without a Skill in comparing them. Upon this Account Physicians were perplexed with another Kind of *Diarrhœa*; a *symptomatick* and a *critical Diarrhœa*. But if we consider, that there is no peculiar Symptom alledged for this Kind of *Loosness*, it is plainly no particular Species. Physicians, indeed, observed, that a *Loosness* attended every Disease, and that very often a Disease was cured by the *Loosness*; and this they found determined the Disease, or was its *Crisis*; and therefore a *Loosness* that put an end to a Disease was properly called a *critical Loosness*. On the other Hand, Physicians finding that a *Diarrhœa* did not cure the Disease it attended; but that rather the Disease encreased and became worse, in the Company of a *Diarrhœa*; did therefore mark it out under the Name of a *symptomatick Diarrhœa*: But still the *Diarrhœa* appears with its common Symptoms, or is a common *Diarrhœa*: and no different Species of it, whatever Influence it may have on the Disease it attends. Physical Writers have so very slender a Notion of a *symptomatick* and of a *critical Diarrhœa*, and far less when a *Diarrhœa* will prove a *Crisis* or a *Symptom* of the Disease it accom-

panies, that they can scarcely give us an Idea of it in their best Descriptions, when they represent it as a different *Species* of a *Diarrhæa*. *This Kind of Diarrhæa*, says ^a *Sennertus*, differs on Account of the Way it affects us, and of its efficient Cause. But, as I observed, the Manner after which a symptomatick or a critical *Diarrhæa* attacks us is nothing different from that of a common Looseness; and, as far as can be discovered, its efficient Cause is the same; and, consequently, a critical and symptomatick *Diarrhæa* do not constitute a different Species of that Disease. What follows in that excellent Physician is very true, though it be not sufficient to vouch for this Division of a *Diarrhæa*; nor is he able to determine when a *Diarrhæa*, falling in with another Disease, is *salutary* or *pernicious*; or, is a *critical* or a *symptomatick Diarrhæa*. However true the Fact may be, the Difficulty of resolving, upon the Spot, on the Course most proper to be pursued is so great, that we find neither the Method nor distinctive Marks in Physick Books, nor in the Practice of Physicians; but what may be truly collected from the foregoing *Theory*, or Explanation of Symptoms. *Lazarus Riverius* has endeavoured to give us a more particular Mark of this important Dif-

^a Pract. Lib. iii. Part ii. Sect. ii. Cap. vi. de Diarrhœa.
ference

ference between these two Sorts of a *Diarrhœa*. ^b *We may reckon, says this excellent Physician, a serous, or watry Loosness, among such as are critical, which affects Men without any forerunning Distemper, and who abound with too great a Quantity of Serum in their Veins; more especially about the Autumn, when the Night or Morning Cold finds the Pores and Passages in the Skin open, after the Heats of the former Season; and, on that Account, sinks deeper into the Body, and forces downwards the watry Humours kept in the Veins; which Nature afterwards, oppressed with this Load, drives into the Guts by the Meseraick Veins. But, by the foregoing Chapter, we find the Manner of this Diarrhœa is very common, and was there explained as a common Symptom of a Diarrhœa; and therefore watry Stools are neither a distinctive Mark, nor do they denote the Safety of the Disease. On the contrary, these Stools commonly constitute the worst Kind of a Diarrhœa.*

The Learned *Riverius* finds it altogether as difficult to settle the Notion of a symptomatick *Diarrhœa*, when he tells us, *that a symptomatick Diarrhœa becomes often colliquative in hot Fevers; and then adds the Marks of a colliquative Diarrhœa, we formerly considered. Thus it is plainly a Mat-*

^b Lib. x. cap. v.

ter of the greatest Importance for Physicians to be able to discover, when a *Diarrhœa* that attends another Disease, will become the *Cure*, or the *Ruin*, of a Person afflicted with that Disease: For *Life* or *Death* is the immediate Consequence of a Resolution that must be taken in that Minute of Time. In vain Physicians seek for Marks in the Stools themselves, or in the Way or Manner they are voided. It is a common *Diarrhœa*, in every respect, that is in Company with another Distemper; and therefore there cannot any Sign be had from the *Diarrhœa* alone, whereby we may judge of its being *salutary* or *pernicious*, *critical* or *symptomati-
tick*: The *Nature* and *Circumstances* of the Disease the *Diarrhœa* follows, is to be compared with the Quantity and Temper of the Flux, in order to determine, whether the Presence of the *Diarrhœa* will be hurtful, or profitable, in the given Case of these two Diseases.

Physicians have as unnecessarily puzzled and perplexed themselves, as they have done it without Success; for the Question of a *Diarrhœa* being *critical* or *symptomati-
tick*, is the same as if it were put of any other Sort of Evacuation. Instead then of a *Diarrhœa*, let the Question be made of a *Hemorrhage*, or an Evacuation of Blood, in a Disease: Experience teaches us, as formerly, that an
Evacuation

Evacuation of Blood often cures a *Disease*, when at other Times it makes it worse, and even puts it beyond the Power of being cured. The first is called a critical *Hemorrhage*, while the last is *symptomatick*; as was spoke in the Case of a *Diarrhœa*. We do not find that Physicians consult the *Looks* of the Blood, or the *Manner* of its being evacuated, in order to determine the Question of a *Crisis*; nor can it be alledged, that consulting the Stools is more necessary. Indeed, the Question in both Cases is so much alike, that we may determine by the same Method, and in the same Number of Words, whether a *Hemorrhage*, or a *Diarrhœa*, is *critical*, or *symtomatick*, without having any Regard to the Condition of the Blood, or of the Stools, or of the Manner they are discharged.

The Reasoning and *Theory* of a *Diarrhœa*, which has discovered its Nature and Causes, and has corrected many Errors from imperfect Observation, will, with certainty, clear one Side of the Question, and that so clearly, that we cannot fail to compare a *Diarrhœa*, in Conjunction with any given Distemper, after the Nature of that Distemper is made as evident as the *Nature* of a *Diarrhœa* is at present.

On the other Hand, would we know the Usefulness of a true *Theory* of a *Diarrhœa*,
or

or how much that is wanting at present in the Practice of Physick; we can easily discover both in the Observations of Physicians about some Diseases accompanied, or complicated, with a *Diarrhæa*; which I will barely relate, and leave them as Problems for every Physician, to try how he has profited by the present *Theory* of a *Diarrhæa*.

^a You may pronounce, says *Hippocrates*, that this Person will die in a little Time, and that of a Loosness: For when Pus has corrupted about the Heart, and a Part of it is laid on a red hot Coal, it sends up a stinking Vapour; which is saltish when the Brain is heated at the same Time, and excites a Loosness.

^b Diseases in the Sides, Inflammations of the Lungs, hot Fevers, and other reputed acute Diseases, cannot be, nor come to any great Height, when Men go loose to Stool; in the Opinion of *Hippocrates*.

^c The same Author informs us, that a *Diarrhæa* is pernicious in Case of a *Pleurisy*, *Empyema*, or a *Peripneumonia*. ^d Among the *Ceniadæ*, *Scomphus* died the seventh Day, being ill of a *Pleurisy*: But he had taken a purging Draught, which did not purge him a great deal, and was in his

^a Lib. 2. de Morb. pag. 447.

& Aq.

^c Lib. 1. de Morb.

^b Lib. de Aere, Loc.

Senses before he drunk it; yet he became delirious in the purging, and that as soon as it began to work.

^a *Zacutus Lusitanus* relates much such another Case, when a Purge stop'd the Spitting, and the Person died.

^b *Hippocrates* observes, that a *Diarrhœa* with a hot *Fever* is very dangerous. He says too, ^c that a *Diarrhœa* coming with a *Leucophlegmatia*, certainly cures it. Yet we heard formerly, that this kind of *Dropsy* is sometimes produced by the continuing of a *Diarrhœa*.



CHAP. V.

The Prognosticks of a DIARRHOEA.

HAVING, in the foregoing Chapters, discovered the Nature of a *Diarrhœa* and assigned its Causes, I am led naturally to deduce practical Inferences that are useful for our Information, and that instruct us in the Cure of a *Diarrhœa*. The first Inferences Authors commonly make, at

^a Lib. 2. prax. mirandæ Observ. 116.
præn. 129.

^c Aph. 28. Sect. 7.

^b Coav.
^d Lib. 5. Epidem.
this

this Time, are about the *Cureableness* or *In-cureableness* of an assigned Case of a *Diarrhæa*; or they propose to determine what Kind of a *Diarrhæa*, formerly related, is in its own Nature most easily cured; and under what Circumstance a most kindly Sort becomes hard, or impossible to be cured.

This piece of Knowledge gives great Comfort to the Sick, and brings Honour to Physicians. A sick Person puts great Confidence in a Physician who is known to have commonly foretold Events of Diseases, and Physicians are not only well esteemed on this Account, but are taught likewise how to behave themselves like prudent Men; and, as *Corn. Celsus* advises them, not to meddle with such sick as cannot be cured, lest they risque the Calumny of having killed the Person, whose Condition was not to be retrieved. Hence the Prince of Physicians, *Hippocrates*, recommends most effectually the studying prognostick Signs to Physicians. *It behoves* (says that excellent Person) *a Physician, in my Opinion, to foresee what may happen through the Course of a Distemper: For the Physician who is apprized of the present Condition of the Sick, and of what has already passed in the Time of their Sickness, as well as foretold what is still to come, and can discover those Observations they had overlooked, procures to himself the Character of thoroughly understand-*

understanding the State of the Sick ; and they, with great Alacrity, put themselves under the Direction of such a Physician. The same Chief in Physick so far approves of this way of taking the Character of a Physician, that he confirms the Judgment of the People with his own Declaration. That Physician is the best able to conduct the Course of a Cure, who is best apprized of all the Accidents that are likely to happen in that time.

It is no Wonder then that *Prognosticks* have been the constant Study of the best Physicians in every Age, and that every *Impostor* has pretended to great Skill in *Prognosticks* in all these Ages: These crafty Rogues have succeeded in their Delusions and imposing on the People, while the Followers of *Hippocrates* in his Integrity, as well as in his Study of Physick, attending to the Course of Diseases, have found it very difficult and laborious to make a considerable Progress in this desirable Art. Experience alone, and of it self, is altogether insufficient for this Purpose; for if we consider our small Stock of *Prognosticks*, tho' they have been collected by Men of great Prudence, Sagacity and Practice, we may conclude, that this Kind of Experience is not a sufficient Method for attaining any Certainty that Way. Very few of the *Prognosticks* recorded by

Physicians let us in to the present State of the Sick ; as few apprize us of their future Events ; and none of them inform us of what has already passed in the time of a particular Sickness.

Before I proceed in the true Method of forming Prognosticks, it will be proper to relate the present State of this Knowledge ; where we may see what a slender Idea one of the best Books on that Subject affords us, and how little that excellent Author seems to have understood what is wanting for rendering that Knowledge tolerably perfect. For as in Physick Books Diseases are represented as a War and Conflict with Nature, so Prognosticks are represented as a Skill of discerning to what Side Victory inclines : But however true this Allegory may be in the Main, the Means of attaining this Judgment are very insufficient. The learned *Prosper Alpinus* thus represents Matters, ^a *They that would discover the Art of foretelling the State of the Sick, ought chiefly to understand from whence it may be taken. There are two things necessary for this Purpose ; one a Disease, which invades a Man's Body, and endeavours to destroy it ; the other Nature, who like a Governor of a Fortrefs, resting in the Body, endeavours to defend it from*

^a Chap. I.

a Disease,

a Disease, as if that were the Commander of an Army, that came to attack and conquer the Body. And as the Leader of an Army makes use of many Soldiers in carrying a Castle, some whereof attack it in one Place, some in another; so a Disease makes use of many Symptoms and other Diseases, instead of Soldiers, in the Attacks of sundry Parts of the Body at the same time. On the other Side Nature, a diligent Defender of the Body from every Insult made upon it, struggles with all its Power, that the Body may not surrender nor submit to the Disease.

Now this Allegory is not only defective, but it is likewise false; for every Disease that attends a principal Disease is produced by the Disease, and is its Symptom. A Symptom then is an Effect of a Disease, which discovers to us the Disease it self, and its very Nature, when Symptoms are thoroughly examined; and in the Sense of the Allegory are rendered its Spyes in the Discovery. But not to make use of *Figures* in Philosophy, a Prognostick is a Declaration of a Physician's *Expectation* in curing a sick Person. This Expectation can only be taken from the *Nature* of the Disease, the *Quantity* and *Intensness* of it, and the natural Strength of the Sick. And therefore, the Knowledge of Prognosticks is not otherwise

to be acquired than by investigating the *diagnostick* Marks of a Disease, whereby its Nature is discovered, and, with it, the Quantity of the Disease, and the Strength of the Sick.

But as the *Nature* and *Causes* of a *Diarrhæa* have been the Subject of the two foregoing Chapters, I will at present give the *prognostick* Signs of a *Diarrhæa*, as they flow from that Account, and, together with them, the Prognosticks of the Ancients; which I leave with Physicians, to determine, which of them are most useful in assisting them in *foreshewing* and *foretelling* the Issue and Event of any particular Case of a *Diarrhæa*.

As then a Looseness, or a *Diarrhæa*, proceeds either from an extraordinary Contraction of the Guts, or from a greater Liquidity of their Contents, or of Excrements; it manifestly follows, that the Strength in two sick Persons being alike, a *Diarrhæa*, with watry Stools, is far worse than a *Diarrhæa* produced by sharp Humours in the Guts, and that excite their extraordinary Contraction. For, by what has been shewn, watry Stools are Defects in the Blood, and encrease by their continuing; as, on the other Hand, a *Diarrhæa* from sharp Humours discharges its Cause, and is cured by continuing for some little time. And therefore,

fore, a *Diarrhœa* with Gripping, and without Water, is safer, and is more easily cured, than a *Diarrhœa* wherein Water is chiefly voided, and is seldom attended with Gripping.

But to be more particular, we will next assign some of the Species of a *Diarrhœa*, under each of these two general Heads, with the Danger that will attend each of them considered in the same Circumstances in every other Respect, but what they have to their top and general Sort. First then, it having been proved in Chapter III. that a *Diarrhœa* is caused by the *peristaltick* Motion of the *Guts* being encreased, and in Chapter IV. that *unwholsome* Food, Food *hard* to be *concocted*, *unripe* Fruit, and too *strong* a Dose of purging Medicines are Causes exciting the *peristaltick* Motion of the *Guts*; it therefore follows, that each of these Causes will most effectually keep up a *Diarrhœa* in proportion to their Power, to provoke the *Guts*, and excite their *peristaltick* Motion.

In that Case, the too strong Dose of a purging Medicine commonly, and every thing besides being alike, works it self off the soonest; and is on that Account a *Diarrhœa* of the shortest Duration.

Next to that is *unripe* Fruit, which yields a very sharp and stimulating Juice necessarily provoking the *Guts*, and exciting their *peri-*

staltick Motion ; but what is under the former Restriction, is easily spent and discharged in the Disease it makes.

But *Food* hard to be concocted, and *Food* of ill Nourishment, corrupt in the Stomach and become very sharp, and in Course make the Contraction of the *Guts* more frequent and more violent ; or such *Food* causes a *Diarrhæa* to continue for a long Time, and very obstinately ; for it does not go well off the Stomach, and acts continually in the *Stomach* and *Intestins*. Of all sharp Liquors, or Substances, that pass along the *Intestins*, *Gall* is the most powerful occasion of a *Diarrhæa* continuing ; for sharp *Gall* provokes the Contraction of the *Guts*, in Proportion to its Sharpness. Besides, it never is exhausted ; but as the *Gall* is carried off by the Stools, there is a continual and fresh Supply brought into the *Duodenum* ; and therefore *Gall* is a powerful and a permanent Cause of a *Diarrhæa*, and occasions it to continue with any assignable Violence, and to any assignable time, while the sick Person keeps alive. These stimulating Causes, and their Power, may sometimes be discerned by the *Mucus* and Streaks of Blood, black Excrements, and the like, voided when Men go to Stool ; tho' they do not always give the Degree of the *Irritation*.

An immoderate Quantity of Excrements, voided in a Diarrhoea, denotes the Intensity of the Cause more absolutely than in the preceding Observation.

Frothy Stools shew a great Strength of a *Diarrhoea*; for by Chap. III. the great Quantity of Aliment is voided, when the Stools are *frothy*. And consequently *frothy Stools* denote an obstinate *Diarrhoea*.

These are some of the principal Prognosticks to be made from this Kind of a *Diarrhoea*; and the Theory already given apprizes us of the Truth of these Conclusions and Prognosticks. We will next consider after what manner these Particulars are declared in Books of Physick; for as the Facts have been constantly observed, they become fitter to be considered; and as they have been collected by Observation, so we may discern the proper Method of determining the prognostick Signs, in every Disease; as also, after what manner they may be attained.

Hippocrates tells us, ^a that it is an ill Sign when People feel a Bitterness, and a bilious Gripping about the Mouth of the Stomach. And Authors observe, that *yellow* and *bilious Stools*, sharp, yellow Stools, like Yolks of Eggs, and green Stools are very bad, unless they come critically to purge the Body.

^a Coac. prænот.

Stools of a Saffron Colour are still worse, and if they are rusty and green, the more they shew of an inward Heat. But all bilious Stools that are not critical are very bad. By these Accounts it is evident, how ominous bilious Stools are; but the Reason of their Illness does not appear from these *Aphorisms*, tho' it plainly does from the Account I have given of a *Diarrhæa*. The reddish Stools, and such as are like *Lees of Wine*, are thus represented by *Hippocrates* in the Case of *Euryanax's* Daughter, who had a *Diarrhæa* with *bilious* Excrements, and who frequently went to Stool, with few, sharp, thin, and pure Excrements; but when they are red, they are very dangerous; yet they are more fatal when they are black. So the same *Hippocrates* tells us, that a *Diarrhæa* with red Stools is very ill in every Disease. The Reason assigned by *Prosper Alpinus* is, that a Looseness with red Stools is very dangerous; and the more, that it proceeds from a Fault in the Liver, as in case of an *hepatick* Looseness; yet these are excepted when they are critical. But, by what has been said in this and the foregoing Chapter, my Reader can judge of the Degree of Danger of this Kind of a *Diarrhæa*, or of a *Diarrhæa* accompanied with these Symptoms. The like Judgment may be made of the *green* and *leek-like* Stools; which are likewise pronounced

nounced to be very dangerous, because they denote a more violent State of the Disease, viz. *tawny Gall* made so by the burning Heat of the Blood. But if we remember what is said in Chap. III. and what I lately said in this Chapter, we cannot be at a Loss for making the true Prognostick from Stools, how easily, viz. and how difficultly a *Diarrhœa*, with these Stools, may be cured. Hence we may judge of this Aphorism of *Hippocrates* ^b *Black Stools, as is the blacker Blood, that come of themselves, either with or without a Fever, are very dangerous.*

These are the Prognosticks to be made from *gripping* Stools in a *Diarrhœa*; let us next consider a *serous* and *watry* *Diarrhœa*, never or seldom accompanied with Pains, or Gripping. These Stools import more or less Danger, according to the Cause that produces them, and the weakly Condition of the Sick; as is very manifest from what has been discoursed in the two foregoing Chapters.

When the Strength of two sick Persons is the same, the *serous* *Diarrhœa*, produced by the too strong Dose of a purging Medicine, is nothing so dangerous, nor will be of so great a Duration, as when it is produced by the Coldness of Air.

^b Lib. iv. Aphorism.

Cold Weather, and rainy Weather, occasion a *serous Diarrhæa*, in Proportion to the Greatness of the Cold and the Time it lasts. But close rainy Weather makes the worst *Diarrhæa*, and the greatest Quantity of Water among the Stools.

Old People are most subject to a *serous Diarrhæa*, which is not only worse than any of the former, but becomes more violent by continuing for any time. The *Diarrhæa* following any Distemper is of the same Nature with the former, and is easier, or more hardly, to be cured, as the principal Disease may be conquered and removed. It is this Kind of *Diarrhæa* that is most commonly symptomatick, and is sometimes called *Colliquative*, when it follows a *hectic* Fever, and the *Plague*, and even other Fevers, that are hard to be cured, which on that Account are likewise called *Malignant*. But I have already treated these Sorts of a *Diarrhæa* so fully, that it is needless to repeat what I have made formerly so plain.

Now if we consult the best Authors in Physick, especially *Prosper Alpinus*, we find the Danger of *serous* and watry Stools declared; tho' they could not distinguish which Stools were most dangerous, because they knew nothing of the Way they are produced. *Liquid Stools*, says *Alpinus*, sometimes proceed
from

from a moist Constitution, Infancy and Youth; from the moist Temperature of Air, or else from humid Aliment, or the Crudity of the Stomach; or else, as Galen thinks, when the liquid Food is not carried from the Stomach into the Liver; or else when Moisture is brought into the Guts from the Liver and Spleen; or that the Spleen, or all the Body, is purged by the Liver. However, Hippocrates declares, that of all liquid Stools, the watry are much the worst; and Galen says, that such Stools are a great Sign of Crudity and Indigestion. That Kind of a Diarrhoea is always fatal, in great and bilious Diseases.

What follows is plainly false, and founded in an obvious Error formerly shewn; *Fat Stools, Galen informs us, are in acute Diseases, when the Fat is carried off by the fiery Heat; but when they are viscous, they shew that the Fat is not so much melted, as that the solid Parts of the Animal are consumed, and that it is falling into a Decay; and then the Stools are fat, viscous, white, in a small Quantity, and are stinking. These are always dangerous, since it is very bad for the Parts of the Body to decay, and to be wasted in their Fat; which are Marks of a burning Heat in acute Diseases, and of certain Destruction.*

Now,

Now, though the true State of these Facts is already shewn with great Certainty, the immoderate Quantity of watry Stools has always been disliked. *But, says Hippocrates, if Men go frequently to Stool, and from all the Parts of the Body, there is great Danger of fainting away; or as it is elsewhere expressed, A liquid Stool, voided hastily and at once, or by Degrees, is very bad; the one occasions Watchfulness, and the former Death.* All these Evacuations are unprofitable, says *Alpinus*, both because they are not sufficient to remove the Cause of the Disease, and that they denote the great Abundance of Humours, always fatal in a violent Disease; or else, that the Power of Nature is languid and spent, which attempts and endeavours to discharge the noxious and hurtful Humours, but what is not able, or sufficient to that Purpose.

This is a dreadful Representation of this miserable Scene, always remediless, because Physicians have no true Knowledge of the Case; and have only been able to set forth this Calamity in Allegories, and other affecting Figures of Speech. *Hippocrates*, in his first Season of the Plague, tells us that *Abscesses followed these forementioned Symptoms*, which *Galen* renders *Stools*, and those were greater than could be supported under, or fewer than could do any Good. The first Part of this Declaration

ration is commonly true; but I hope Physicians will not expect any Good from the last, whether they should happen in the Disease, or that they themselves should try to make them greater.

Hippocrates says, in a Word, all they that were taken ill of acute Diseases, chiefly miscarried with a Loosness; for they all went off in a Diarrhoea. *Galen*, in his Commentary on this third Book of the Epidemics, confirms this Affirmation of *Hippocrates* by his own Experience: And says, that in the Plague which lasted very long in our own Times, every Body died in a *Loosness*. What was voided was a Colliquation.

I have insisted the longer on this Subject of a watry Loosness, or of a *serous Diarrhoea*, because it has always been the most pernicious of any, and the least understood of them all. But what is most lamentable, we shall find hereafter very little Provision made for curing it; and if any Thing can raise our Concern higher, the Medicines in most common Use among Physicians are more fitted to promote, than to cure, it. But to conclude, ^a *Hippocrates* has truly informed us, that when a Loosness has lasted a long Time, and the Powers and Faculties have been weakened, and Men have still stood the Shock of the Disease; yet then they fall into a *Lientery*, or

^a Lib. vi. Aphor. xliii.

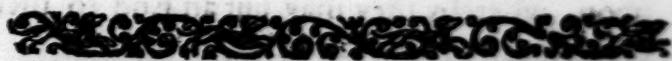
into

into a *Dropsy*, whereof they dye at last. The Truth and Reason of which Aphorism is plain in Chap. III. of this Book.

The Prognosticks I have offered are the genuine Corollaries, drawn from the Account I formerly gave of the *Nature* and *Causes* of a *Diarrhæa*; and do not only truly explain the Prognosticks of all antient Physicians, but give us likewise the truest Expectations we can have about the *Cure* of a *Diarrhæa*; yet I must own, that one material Branch in settling Prognosticks has at this Time been omitted, and that altogether by complying with the Rank and Order we find this Doctrine treated of in Books of Physick. Medicines are our Instruments we make use of for curing Diseases, and on whatever Side, of Nature, *viz.* or of the Disease they lean, they will in every great Case determine the Event to *Health*, or to *Death*. But as yet we have made no mention of Medicines, which therefore cannot at present be any Part of our Consideration.

It is very certain, that a Physician that is either provided with an excellent Medicine for curing a Disease, or who can make a better Use of the Remedies commonly recommended by Physicians, will form far different Expectations for the Cure of that Disease, than a Physician that is unprovided of such a Remedy, or that does not know any

other Choice in the common Stock, besides their being recommended. This is a very obvious Truth, and might be illustrated from the Practice of the *Jesuits-Bark* in curing Agues, and by many other Instances, if it were not already manifest, and what cannot be denied Me: And therefore in treating the Dysentery, I will consider its Prognosticks, after having inquired into the Nature, Causes, and Cure of the Disease; at present I will proceed to discover the Medicines employed by Physicians for curing a *Diarrhœa*, and which of them are the best for that Purpose; as also, to determine which of those Medicines best suit the particular *Diarrhœa*. All which Considerations are still undetermined at this Time among Physicians.



CHAP. VI.

The Cures of a DIARRHOEA.

THE Cures for a *Diarrhœa* that we meet with in Books of Physick, are very various in their Nature, but more various in their Number; an Argument, that either Physicians have not hitherto discovered

discovered a proper Method of Cure, or sufficient Remedies for executing it. This Conclusion is the more obvious, if we consider in what general Terms these Cures are recorded, and upon what slender Foundations the Medicines were first made use of; every Remedy comes equally and promiscuously recommended to us, and our Choice is not directed, nor fixed by any particular Account of the Medicines; they are all *good*, and *experienced* by *great* Physicians of *long* Practice: So that any one Method is as artful as another. One Medicine is equally our Choice as another; nothing besides our Fancy (a miserable Guide) is left to conduct us; and the necessary Consequence of our Ignorance is all the *Wrangle*, and *Contest*, that *Humour*, *Opinion*, and *Interest* can occasion: There is nothing of a Principle Physicians can fix upon, whereby they may put an End to their precarious, and unseasonable, Disputes.

But in all former Accounts of a *Diarrhæa*, Physicians have not been able to give any rational Account of the *Cure* of a *Diarrhæa*; nor to tell us, why one *Method*, or *Remedy*, is to be preferr'd to another, either in the general Practice, or for curing any particular Case of a *Diarrhæa* in its most simple, essential, or uncomplicated State. *Physicians* indeed knew nothing of the *Nature* of a *Diarrhæa*, and they considered many Sorts of it
that

that prove altogether imaginary, and that are truly false by the foregoing Account of a *Diarrhœa*. Matters grew still more impracticable, as a *Diarrhœa* might be complicated with other Diseases, or attended them as Symptoms; then indeed we find it impossible for Physicians to direct us in the particular Care that ought to be had, when we regard that Symptom in every Disease, and under every Circumstance of Diseases wherein a *Diarrhœa* may occur. For that Reason it is, that we find the Practice of Physicians differs nothing in a *Diarrhœa*, when it is a *Symptom*, from what it is when a *Diarrhœa* is the principal and ideopathick Disease.

That, then, the Cures, at least of an *essential Diarrhœa*, may hereafter proceed upon better Grounds, and in a more reasonable Manner, and that a *Diarrhœa*, on that Account, may be cured both with greater Certainty and Success; it is very manifest that *Indications* for curing a *Diarrhœa*, are so many *Corollaries* to be drawn from the foregoing Account, given of the *Nature* of a *Diarrhœa*. Is not every *Diarrhœa*, whether *essential*, or *symptomatick*, produced universally by *stimulating* the *Guts*, or by an extraordinary Discharge of a *serous* and *watry Liquor* into them? Does not therefore the *Cure* of a *Diarrhœa* altogether consist in removing the stimulating Causes assigned,

signed, and by preventing the *serous Humour* from flowing into the Guts? and therefore every Method, and every Medicine, proposed and offered for the Cure of a *Diarrhœa*, must bring about one or both of these Designs, or they will prove altogether ineffectual in the Cure: And no Medicine will ever succeed, but in that Proportion it can remove the Stimulus, or drive the watry Liquor into its natural Channels; and the Medicines must be properly applied to the *Stimulus*, or *serous Liquor*, accordingly as they are the Cause of the *Diarrhœa*, which is to be cured.

The Course then of our Method leads us, in the next Place, to receive the *Methods* of Cure Physicians have already gone upon and recommended to our Practice; which afterwards we will examine by the Rule we have now fixed and established.

Hippocrates informs us, ^a that every Change in a Loosness is profitable, if it is not for the worse.

The forementioned Physician observes, ^b that the Stools abate, when the Quantity of Urine encreases in the Night.

Hippocrates likewise assures us, ^c that a Vomiting happening to one ill of a *Diarrhœa*, carries off the Distemper. But this and the

^a Aphor. xiv. Sect. ii.

^b Aphor. lxxxiii. Sect. iv.

^c Aphor. xv. Sect. vi.

former *Aphorisms* are boldly attacked by ^a *Celius Aurelianus*, with what reason will hereafter appear.

The Method for curing a *Loosness* proposed by ^b *Cornelius Celsus*, the most elegant and excellent *Roman* Physician, is to begin with a *Vomit*: Next Day, and in the Evening, the Sick is to be anointed in a warm Place; they must eat moderately, and drink some strong rough Wine; there must a Cere-cloth with Rue be laid on their Belly. There is no need of *walking* or *rubbing* in this Distemper. It is useful to ride in a *Coach*, but still more to get a *Horse-back*; because nothing *strengthens* the *Bowels* more than *riding*.

But the great Example the *Latin Hippocrates* always proposes to himself, makes some Exceptions to this Rule of *Exercise*. For *Hippocrates* directs ^c, that they who are seized with a *Loosness* while they are *exercising*, and *void unconcocted Excrements*, resembling their Food, must at least lessen a *third* of their *Exercise*, and one half of their *Food*.

Coition is recommended for a sovereign Remedy, and *Hippocrates's* Authority made use of by ^d *Aetius*, ^e *Paulus Egineta*, and ^f *Amatus Lusitanus*; yet it will quickly ap-

^a Cap. iii. de Cæliacis, pag. 521, 522. ^b Lib. iv. cap. xix.
^c De Salubri vict. Rat. pag. 339. Fœf. ^d Tetrabib. i. Serm. iii.
 cap. viii. ^e Lib. i. cap. xxxv. ^f Lib. i. Cent. xiii. Obs. xi.

pear that *Hippocrates* was altogether of another Opinion, and that their *Affertion* is contrary to *Reason* and *Experience*.

Astringent Medicines are found in the greatest Abundance, and are chiefly depended on by Physicians, for curing a *Loosness*. But many modern Physicians complain of their unhappy Success by binding Medicines; their Patients suffering much more by some Cures in that Way, than they had formerly done by the Disease. In antient Times *Galen* blamed *Herodotus* and *Dioscorides* for asserting, that ^a there was not any Remedy could cure a *Diarrhœa* or a *Dysentery* but *astringent Medicines*.

Opium and opiate Medicines have been often made use of for curing a *Diarrhœa*.

Bleeding is esteemed of great Use for curing a *Diarrhœa* by ^b *Leon. Botallus*. This Opinion is supported by ^c *Zacut. Lusit.* who says, that a young Man was cured of a *bilious Diarrhœa* by being *bled* at the *Salvatella*.

Bathing has often been practised with good Success in the Cure of a *Loosness*.

After this Account it must prove our Admiration, that a Disease should stand out against so many Methods of curing, and should prove fatal so commonly, while we pretend

^a De simpl. Medicamentor. Facult. lib. pag. 23. Cap. xxxvi.

^b Cap. iv. de Curat. per Sang. Miss. Hist. lxxxii.

^c De Méd. pr. lib. 2.

to so great a Number of sovereign Cures. Nothing more than our not understanding the Ways how a Loosness is produced, is the Cause of the ill Success of Physicians. But as the *Nature* of a *Loosness* has been laid open and made manifest, so the shewing the Propriety of the foregoing *Methods*, and for what *Loosness*, or in what Time of a *Loosness* they are particularly useful, will render the Success of Physicians more fixed and frequent, which was the next Thing I proposed to do.

But before I proceed to this Inquiry, I will set forth our present Defects in the Sense of an excellent Practitioner, *Laz. Riverius*, who, after *Sennertus*, has collected the best Accounts of antient Physicians, and with the greatest Judgment; insomuch, that all Physicians since their Time have then only spoke best, when they spoke the Language of the Antients, but give very imperfect Accounts, as often as they have swerved from them; whether this Defect proceeds from Conceit, or that Physicians not duly study the Books of their Predecessors.

The Cure of a *Diarrhoea*, says *River.* (whether that depends on another Disease, or not) cannot otherwise be attempted than by *mild, diluting, and cool Purges, narcotick more particularly, and cooling Medicines, when the Diarrhoea subsists by Gall, and o-*

ther sharp Humours, bleeding in the mean Time, and that repeated. A Clyster is to be given, in the Beginning, once or twice every Day.

But while the Remedies are administred in their Turns, we must purge (as there is occasion) though the *Diarrhœa* is very great, because it has been found, that a *Diarrhœa* has ceased, after its Cause has been evacuated, and carried off.

A *stercorous Diarrhœa* does not continue; but if it should, the mentioned Remedies are proper and useful, having first made use of the general Administrations of purging, &c.

A *Colliquative Diarrhœa* rarely admits of a Cure; yet it may be helped by *strengthening* and *restorative* Medicines after gentle Purging and lenient Clysters.

We have, in this Account of the learned *Riverius*, the whole Practice of a *Diarrhœa* brought down through all the Ages of Physick; which account not only comprehends all antient Experience, but far exceeds the Histories of Cures given us by modern Physicians. But however perfect this Account is in point of History, and that it instructs a Physician, and enables him to pursue a more steady Practice than the Rules we find among more modern Physicians; yet the foregoing Account, I have given of the *Nature*, and *Causes*, of a *Diarrhœa*, cannot fail to apprise

prize us of the Defectiveness of these Methods, which neither instruct us why any of them is most proper; when we ought to practice in one Method preferably to another; and how long we ought to persevere in the Method we, at first, set out with.

The great Candour and Integrity of this excellent Physician is equally laudable and conspicuous; for he tells us of the Difficulties which occur in curing a *stercorous Diarrhœa*; and professes that he never found that which is *Colliquative* ever admitted of any Cure. On the other Hand, most of the modern Physicians are either not apprized of these Difficulties, or they conceal their ill Success, which cannot be mended, while they practise with the same Medicines, and are not better apprized of administering them more properly than antient Physicians. Doctor *Pitcairn* not only confounds the *Diarrhœa* with the *Lientery* and *caliack Affection*; but he likewise asserts, that they may all of them be cured the same Way. I do not wonder at the last Part of his Assertion, because I have formerly shewn, that the Practice of the Ancients is the same in these Diseases, but that it ought not to have been the same, by the Account they give of the *Diarrhœa*, and the *Lientery*, which are very different Diseases, and required a very different Method of curing them. But when Doctor *Pitcairn* reckons those

three different Diseases one, he not only contradicts *Riverius*, whom he follows, and is the ancientest Physician he ever read; but even opposes his own Descriptions of these Diseases, which he chiefly takes from *Lazar. Riverius*. The Doctor, too, is so far from owning the Difficulty of curing a *Colligative Diarrhœa*, that he partly thinks there is not any such, or that it may be cured by the common Means; which, we find, is against all Experience.

But as the Account I have given of a *Diarrhœa* has made us sensible of the Defects of former Practices; so it shall be my next Endeavour, to discover the peculiar Ways of acting of the Medicines, that answer the forementioned Methods, whereby we shall be instructed, when one *Method*, or even any one *Medicine*, is most properly administered, and why it must be continued, or laid aside; which is the Sum and Substance of Physick. Besides, we may now learn, wherein the Difficulty of curing a *Colligative Loosness* consists, and what must be the properest Means of curing it; which is a mighty *Desideratum* in Physick. Dr. *Pitcairn* is under a gross Mistake, when he says, a *Fever* and its *Diarrhœa* require the same Cure, because they have one common Cause: But he did not understand the Time and Circumstance of the *Fever*, when a *Diarrhœa* begins to shew
it

it self, and which occasions its continuing; and is, on that Account, not apprized of the Method of curing either one or the other of them. In this Sense their Cause is not common, but the *Fever* is truly and properly the Cause of the *Diarrhœa*. Other Physicians do not seem to be sensible of these Difficulties; and therefore, that we may be better informed, we proceed next on such Inquiries.

S E C T. I.

How far Purging and Vomiting contribute to the Cure of every DIARRHOEA.

I Do not intend to insist upon the first *Aphorism* I bring from *Hippocrates*, that importing nothing particular in the Cure of a *Diarrhœa*, because a Change in every Disease, that is not for the worse, is always profitable, and signifies that there is a Stand put to its Violence; I proceed, in the next Place, to consider the Advantages that accrue by *vomiting* and *purging* in the Cure of a *Diarrhœa*.

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The great Benefit of vomiting is first established in the fore-mentioned *Aphorism*, that *Vomiting coming upon a long Loosness is often its Cure*. And therefore *Hippocrates*, in ^a another Place of his Works, advises his Followers, that they would not stop a vomiting, when at any time they are desired to cure one of a *Diarrhoea*, who likewise vomits; for the vomiting eases the purging: But the vomiting will be stayed more easily afterwards. And if the sick Person is very weak, give him a sleeping Draught after his vomiting. *Hippocrates* is so satisfied with the Success that attends this Method of Nature, that he thinks we ought always to give a *Vomit* when we would cure a *Loosness*; as he did in the ^b Case of *Menefianax*, to whom he gave *Hellebor*. This Practice may be particularly found when we see the Method of this excellent Physician. ^c *A Diarrhoea was common and violent, and the like happened in the Winter. They were bled; Hellebor was administred; they drank Cow's Milk, and first Ass's Milk, which was useful, and cured the Loosness.*

Hence it is plain, that, in Fact, vomiting is the Cure of a *Diarrhoea*; as also that a *Diarrhoea* is actually cured by vomiting and

^a Lib. de loc. in Homine, pag. 416.
^c Lib. 7. Epid. pag. 1008.

^b Lib. de Acutis.

purging Medicines. The Reason of this Experience is likewise manifest from what has been shewn about the *Nature* and *Causes* of a *Diarrhoea*; because a *Diarrhoea* is often occasioned by sharp and *stimulating Aliment* in the *Stomach* and *Intestins*; and its *Causes* are *unripe Fruit*, *indigested Food*, &c. And therefore *vomiting*, and *vomiting* and *purging* Medicines, bring up, or carry downwards, the sharp Substances, in which consists the *Nature* of one Kind of a *Diarrhoea*; and, on that Account, are the *Cure* of a *Diarrhoea*: For the *Cause* of a *Diarrhoea* being removed, the *Diarrhoea*, the Effect of those *Causes*, quickly ceases.

However true this Reasoning is, yet the promiscuous Use of *purging* and *vomiting* Medicines do not answer our Expectation; but especially, if their *Doses* are not wisely determined. Nay moreover, *vomiting* and *purging* Medicines are a Remedy only for that Kind of a *Diarrhoea* which has its Origin from *stimulating* Causes. But when the *Diarrhoea* proceeds from *purging*, or *vomiting* Medicines, from *old Age*, or when a Man is in the State of *old Age* by any Disease; in that Case *vomiting* and *purging* Medicines are so far from being the *Cure* of a *Diarrhoea*, that they are pernicious to Men, and become a Poison in some Degree. How commonly do we find a Mul-
titude

titude of Lives carried off by purging Medicines, while Physicians, under specious and plausible Pretences, think they are *carrying off* a Diarrhœa? But the Reason of this pernicious Success is very obvious, if we consider what has been said of a *Symptomatick* and *Colliquative* Diarrhœa.

Celius Aurelianus, the learned *Numidian* Physician, was so sensible of the fatal Consequences of this *purging* Practice, without Distinction, that he thinks, against all Reason and Experience, these Medicines can never be beneficial in *curing* a *Diarrhœa*; and very rashly blames the great *Hippocrates* for recommending them. But we find both their Experiences are true; and that a *Diarrhœa* of one Sort will be cured by *vomiting* and *purging* Medicines; while these very Medicines are pernicious in another Species of a *Diarrhœa*. These different States of a *Diarrhœa* have been distinguished in the foregoing Discourse; yet I will quote a Passage or two from *Aurelianus*, that his Assertion may not be pretended to be feigned, and alledged as a Falsity, to Readers that may never have had an Opportunity of knowing it true in this Author himself. *Even they*, says *Celius*, *who first brought Physick into Form are blamable*; for *Hippocrates* ordered the Sick to be treated with *Hellebor* in the Beginning, preferring it to every other Remedy.

And

And afterwards, the forementioned Practice of *Hippocrates* is condemned in reprov-
ing *Lisius*, or *Lusius* who followed him in it,
and who commends vomiting after Meat.
This *Lisius* ordered the Sick to be purged
every three or four Days, if the Looseness
continued, and had lasted for any considerable
Time, or seemed to have any Type by its pe-
riodical Returns. This Practice *Aurelianus*
dislikes, because he alledges this Method is
unseasonable and improper; as also that it
is too violent, and very like to turn a safe chro-
nical Distemper into one that is acute and
dangerous.

It being then obvious, that the Truth of
both their Facts and Experiences are indispu-
table; it is as obvious, that neither of them
understood the Times and Circumstances of a
Diarrhœa, when either of the mentioned
Methods were the most proper. *Galen* al-
ledges, that vomiting cures a *Diarrhœa* by
making a *Revulsion* of the Humours to which
it is owing, which, in the best Sense, is
scarcely explicable; and is absolutely false in
the Case of a *serous* and *symptomatick* *Di-*
arrhœa. But we having now, by the fore-
going Theory, a sensible Notion of a Vo-
mit, or of a Purge, curing a *Diarrhœa*, viz.
that they can only cure it when its irritat-
ing Causes subsist in the *Stomach* and *Intes-*
tins, and that then the Doses of these Me-
dicines

dicines must be adjusted to the particular Case of every Person ; because a sick Person vomiting, or going to Stool, a determined Number of times in one Day, is under the Circumstances of one that has taken a Dose of these Medicines, sufficient to produce the like Effects. And therefore, the superadded Dose, which is to carry off this Quantity of Stimulus, must be adjusted to that End, and the Strength of the Person : But instead of descending into these Particulars, I will add the Medicines that have been recommended by the best Physicians for curing a *Diarrhæa* by *purging*, *vomiting*, or by doing both at the same time.

It has been already observed that *Hippocrates* gave a Vomit of *Hellebor* for curing a *Diarrhæa* ; which Practice of vomiting has ever been continued, tho' with less violent Medicines in all after Ages. *Angelus Sala* provided the Physicians in the Beginning of the seventeenth Century with his Salt of *Vitriol*, which is still a most gentle Vomit, and was an Excellent Remedy for the Cure of every *Loosness*, till *Helvetius* established the Practice of the *Ipecacuanha-root* ; but then the *Salt* of *Vitriol* gave way to the last, which is more agreeable, and is reputed more beneficial for the Cure of a *Loosness*.

Great are the Commendations of the Salt
of

of Vitriol, though it has much fallen into Disuse for the last thirty Years. ^a *Lazarus Riverius*, an excellent Author, tells us of a great Cure made of a young Man who was desperately ill of a Bloody-flux, and being sent into the Hospital was recovered with *Sal. Vitrioli* ʒj dissolved only in fair Water. He vomited up a great Quantity of *bilious* Stuff, and was immediately cured.

Tho' we cannot produce any History of a Cure by *Ipecacuanha* that is either more effectual, or more sudden, than that I have just now mentioned; yet the *Salt* of *Vitriol* gave way to the *Ipecacuanha*, either because it was a latter Invention, or that it was more agreeable, and was for a long time kept a great Secret. It is true, that *Piso* had long ago described the *Ipecacuanha*, and told us, that it cured a *Dysentery* or *Bloody-flux*; and ^b *Georg. Macgravius* had likewise informed us, that the *Ipecacuanha* cured a *Loosness*; but it must be confessed, that he was little acquainted with its Operation; for he says, it always purges, and sometimes vomits; whereas it always vomits, and is given commonly for that End only; and sometimes only purges. So that, unless *Helvetius* had established its use, we might have been still in the dark for knowing its true

^a Cent. Obs. tertia, Obs. 9.

^b Hist. Brasil. p. 17.

Operation,

Operation, or the Manner how it cures a Loosness.

The learned Doctor ¹*Tournefort*, an excellent Botanist, has given the World the most particular Account of its Effects, and of the Manner of administering it. The last, as he informs us, is after this Manner.

R. Pulver. radic. Ipecacuanha ʒ℥. pane involvatur ut deglutiri possit, hauriendo postea juris Carnium, vel Aquæ communis tepidæ Cyathum.

He tells us, that it is a Vomit, and by bringing up a copious Quantity of morbidick Matter the sick Person is speedily cured. This he informs us of from his own Experience in *Spain*, in *Narbon*, and at *Paris* in *France*. He tells us, moreover, that by an Order from the first Minister he went into *Spain* and purchased a great Quantity of *Ipecacuanha* for the *King's* Service; and that, by the like Order, he had distributed one hundred Weight of it among the Hospitals for the Relief of the Army.

But to return to the Effects and Operation of *Ipecacuanha*; Mons. *Tournefort* illustrates both in one most notable History of his Master, *Petrus Sylvanus*, who was reduced to

¹ *Mat. Med. p. 190. Londini.*

the greatest Weakness, but was cured by *Ipecacuanha*. He took the Medicine in the Morning, without taking Place upon him, notwithstanding of all Endeavours to make him vomit; and in all that time his Disease continued in its ordinary Violence: At length he voided six Pints of thin, serous and bloody Excrements, and then found Relief.

This Account and Experience of Dr. *Tournefort* is a manifest Proof of the *Ipecacuanha* being a Remedy that cures a *Loosness* by its vomiting and purging Faculty. How miserably then are they mistaken, who believe that it is some Specifick, and that it is some unaccountable specifick Quality of that Root that cures a Loosness? It is never known to have any Success but when it vomits, or purges the Sick; which *Hellebor*, and *Salt of Vitriol* performing, it cures a *Loosness* as manifestly by being a *Vomit*, as either of the other Medicines.

On the other Hand, in the dangerous Sorts of a *Loosness* that do not want purging and vomiting, nay, where Purges and Vomits are hurtful, the *Ipecacuanha* has as ill Effects as any of the rest. This might be shewn from great Multitudes of Facts, where this empirical Practice has often been the Ruin of the Sick, or have run them into the greatest Extremity of Danger of their Life. But it will be more agreeable to set forth this

Truth, from an Account of the Fate of *Ipecacuanha* in *France*, where it soon lost its high Esteem, because it was found to be useless in the most considerable Kinds of a Loosness; for which it was more particularly wanted, and which put the *King of France* to so vast an Expence to purchase it.

I observed very lately, that Dr. *Tournefort* not only purchased the *Ipecacuanha* in *Spain*, but that he likewise, by Order of the first Minister in *France*, had distributed one hundred Weight of it among the Hospitals for the use of the Army; so great Care was taken to support the Army against a *Diarrhœa*, the greatest Enemy Armies have commonly to encounter. This expensive Provision did not answer all the Trouble and Charge of a Prince greedy of Conquest; for the same Dr. *Tournefort* informs us, that the *Ipecacuanha* had no such Effects in a Camp as it had had in private Families about *Paris*. The Reason is very obvious from what has already been shewn; for they only are cured who bring up *indigested* or *bilious* Stuff; but it very seldom cures in any other Case and Circumstance, and then only as another *Vomit*. The Reasons assigned by Dr. *Tournefort* are not altogether so plain. *The Soldiers*, says he, *are much weakned by the Distemper; their Bowels are much hurt; nor do they bear a Vomit*. Now tho' the Reasons

Reasons cannot be admitted, yet he gives us some Facts whereby we may know, when it is not proper to give a *Vomit*. Few People can be weaker than *Petrus Sylvanus*; so his Case is not of the same Nature with a *Camp-Loosness*. The Soldiers do not bear it, because it gives them a greater Loosness, and carries them off, as it does many among our selves; and consequently it is a Medicine the Army will not away with.

This ill Success occasioned our being easily provided with a very good *Vomit*; for the *French King* would not be a Loser, but obliged the *Apothecaries* to take off his useless *Cargo*, which they sold, for some time, at a *Pistole* a Dose.

What has been said of *vomiting* Medicines, explains fully what *purging* Medicines do in curing a *Diarrhœa*. *Purging* Medicines have already been admitted for one Cause of a *Diarrhœa*; which Medicines cannot be supposed ever to prove the Cure of a *Diarrhœa*, in that Circumstance they produce it. And therefore *purging* Medicines are always pernicious in a *Diarrhœa* from *old Age*, and in a *symptomack* *Diarrhœa*; however generally they have been recommended promiscuously for the Cure of every *Diarrhœa*. On the other Hand, a *Diarrhœa* produced by stimulating Causes may be cured properly, by *purging* Medicines;
I because

because *purging* Medicines do truly carry off the Disease by their purging off the sharp Excrements, which are the Cause of it. Not then to insist longer on a further Account of *purging* Medicines for curing a *Diarrhæa*, I will rather relate some of the best Forms of that Kind, that may be found among Authors in Physick that have been most esteemed.

The purging Medicines are either *simple*, or Medicines *compounded* of the former. The first are *Pale-Roses*, *Mirobolans*, and *Tamarinds*; yet *Forestus* questions their Safety. *Rhubarb* is generally recommended; but needles, tho' warm, Disputes have been maintained about giving it *raw* or *roasted*; which Controversy is easily determined by the foregoing Account of things: For could *Rhubarb* be divested of its Purging by roasting, it should then become useless. The only Skill then in giving it and other Purges, consists in giving them in their true Dose. *Agarick*, likewise *Mechoacanna*, have a great Place among *purging* Medicines that have cured a *Diarrhæa*.

Authors commend this purging Draught.

℞ *Tamarindor.* ʒij. *Mirobolan. citrin.* ʒij.
Decoquant. in Dec. Hordei Aq. plantagin. ā. q. s. *ad ʒviii.* *Liquor fervidus*
versetur super rad. Rhab. electi ʒj. in-
fund. clausa per noctem, & mane Cola-
turæ

*turæ adde Syrupi Rosar. solutiv. ʒj. M.
F. Potio.*

℞ *Pulver. radic. Rhab. electi ʒss. Pulpæ
Tamarind. q. s. ut F. Bolus Mane de-
glutiendus.*

*Fr. Joel recommends this Bolus. ℞ Pulp.
Cassie recenter evulsæ ʒx. Sacch. con-
spersgatur ut Aurorâ deglut.*

Rhubarb, no doubt, is to be preferr'd to the other purging Medicines, because it is likewise endued with a binding Quality, whereby it leaves every one bound that takes it in Health, and must therefore have some such Effect in a *Diarrhœa*. This its binding Quality is so notable, that with it may be made *Ink*, if it is to stand in the Place of *Nut-Galls*, in any such Composition.

Besides these purging Medicines, Physicians have recommended *purging Clysters*, and sometimes *Clysters* that do not *purge* nor *bind*; which therefore they call *Clysteres Macri*, or *Maigre Clysters*. Both these Sorts of *Clysters* are of excellent Use, when either the Sick are so weak that they cannot bear any purging Medicine of another Sort, or, that their weakly Condition calls for a more speedy Preparative, and cannot wait the Loss of ten or twelve Hours before they begin the most useful Part of

The Cure of
their Cure. And therefore I will give some
Forms of these Kinds of Clysters.

℞ *Decocti Hord.* ℥j. *Ol. Rosar.* ℥ij.
Sacchari crudi, quod rubeum vocant 3j.
vitell. Ovor. N^o. ij. Commisceantur. F.
Enema.

When the *Loosness* is so great, that it is
not fit to give any *purging* Medicine, then
the *Maigre* Clysters are of the greatest Ad-
vantage to the Sick. This Clyster I com-
monly order on such Occasions.

℞ *Baccar. junip. contusar.* ℥j℥. *fl. Cha-*
memel. 3vj. *Bulliant in Aq. commun.*
℥xij. ad 3vj. vel vij. Colature adde O-
vi vitelli dimidium, Ol. junip. stilla-
titii 3j. Optime misceantur & F. Cly-
ster.

I forbear to trouble my Reader with more
Forms of these Medicines, because great
Plenty of them may be found in every Book
of Physick.



SECT:

S E C T. II.

*The use of Diuretick Medicines in
the Cure of a DIARRHOEA.*

THE Practice of *Diuretick Medicines* in the Cure of a *Diarrhœa* is as ancient as the Practice of *purging* and *vomiting* Medicines, which I have already explained, and the Propriety whereof I then determined. All these Medicines have been administred by *Hippocrates*, tho' not with equal Success. *Hippocrates* observed, that the Stools abated, when the Sick made a greater Quantity of Water in the Night; which Observation holds true to this Day, and must be so for ever; because it is in the Nature of the thing to be so; as has formerly been shewn. For the Liquidity of the Stools is as the Quantity of serous Parts discharged at the Glands of the Guts; but a due Quantity, or a greater Quantity, of Urine being now voided, denotes a greater Secretion of Serum to be made at the Kidneys, and the Secretion at that Part being greater, the Secretion of Serum at the Glands of the Intestins must be less. Now the Secretion of Serum into the Guts being less,

the Stools will be less liquid, or more natural and consistent; or the *Diarrhœa* which exists in liquid Stools, has abated, and that to every Degree, according to the Consistence they acquire; and thus appears the Truth of the Aphorism.

We must inquire in the next Place, Whether the Practice of *diuretick* Medicines will cure a *Diarrhœa*, under any of its Circumstances, as we formerly found *purging* and *vomiting* Medicines did. It is plain then, that the *serous* or *watry* Looseness is the Sort that should be cured by *diuretick* Medicines; for the Quantity of *Serum* voided in a *Diarrhœa*, from the greatest Irritation, is most inconsiderable. If then a *diuretick* Medicine could bring a greater Quantity of Water to be discharged in the Kidneys, it must prove a very useful Remedy in the Cure of a *watry Diarrhœa*, which is the hardest to be cured of any: But Experience vouches very little for the Efficacy of these Medicines, and our Reason affords us small Expectations from that Practice: For it has been proved formerly, that a *watry Looseness* is occasioned by *old Age*, or when Men become in the like State by being worn out by a Disease, and when their insensible *Transpiration* is become very defective; and therefore *diuretick* Medicines, which always lessen Transpiration, can never become the Cure of a *Diarrhœa*.

arrhœa. Besides, many *Diureticks* actually purge by their stimulating, especially they that are *saline* and *acid*; and consequently *Diureticks* are very pernicious in every Looseness.

Physicians are subject to many fallacious Inferences from such plausible Observations, and the Practices built on them are often very hurtful. Every Man, that goes to Stool once a Day, falling sick, and at the same time being costive, immediately concludes, that the *Costiveness* is the Cause of his Distemper, and that a Purge will certainly cure him. Every Physician finding his Patient ill of a *Fever*, and going oftner or more seldom to Stool, very readily concludes this *Looseness*, or Costiveness of the Sick, to be the Cause of the *Fever*. But the Fallacy in all that Reasoning generally consists in this, that the *Disease* and its *Symptoms* have one and the same common Cause, and that neither of them require an opposite, or contraindicating Way of curing. How frequently do we observe many Women hurled into their Graves by this Kind of Fallacy? Every Woman, almost, has monthly Discharges, which continue to return orderly while she continues in Health; but in many Cases these Evacuations cease, and the *Women* and their *Midwives* assign this stopping as the Cause of every Disease that can happen at the

the same time: Yet by procuring a Cure by forcing this *Evacuation*, they, often, infallibly compass their Death, without being able to force their intended Evacuation. So difficult it is to discover a *Disease* and its *Symptom*, and the *Causes* of both.

Celsus Aurelianus not only corrects *Dioscorides* for recommending *diuretick* Medicines for curing a *Diarrhœa*, and his false Philosophy of drying it up, and the whole Body thereby, but he alledges moreover, that a *Diarrhœa* was never known to be cured by Remedies of that Sort; and that it is well known, that the *Bladder* has been afflicted with many Diseases by the use of *Diureticks*.

The proper Consequence to be drawn from this excellent Observation of *Hippocrates* is, that sick People begin to be in a better Condition, and begin to recover of a *Diarrhœa*, when they make a greater Quantity of Water than they had done in any time of their Sickness: But their *Water* is never to be brought back on these Occasions by a *diuretick* Medicine; nor is the greater Quantity of *Urine* the *Cause*, but an *Effect* only, of the *Cure*.



S E C T. III.

*How far astringent Medicines cure a
DIARRHOEA; with some of the
best Forms of Astringents.*

*A*stringent Medicines are the common and
last Resort of Physicians for the Cure
of every Evacuation, but more especially for
the Cure of every *Loosness*; both as they
promise to restrain every extraordinary Dis-
charge, as also, that Physicians believed the
general Cause of a *Loosness* to be a prater-
natural *Slipperiness* of the *Guts*, which *as-*
tringent Medicines might take off, and ren-
der the *Guts* harder, more rough, and less
slippery. But as this *Smoothness* and *Slip-*
periness of the *Guts* has not been found a-
mong the Causes of a *Diarrhœa*, and that
the Notion is it self false and useless, we
must inquire further, about the proper Action
of *astringent* Medicines when they conduce
to the Cure of a *Diarrhœa*; which Action
is the more particularly necessary to be known,
that *astringent* Medicines have been found to
have done great Mischief on some Occasions,
when they were made use of for the curing
a *Diarrhœa*.

The

The most sensible Effects of *astringent* Medicines are the stopping an exorbitant Effusion of any Liquor. Their *Operation* then, is either the thickning the common Mass of Liquors in general, whereby the Quantity of their Efflux is lessened, or else they affect the discharging Liquors immediately at the Place of their Efflux; and thus prove a Bar to their further Discharge. And therefore, by comparing this Operation of *astringent* Medicines in the Cases of a *Loosness*, we become easily apprized of the proper use of *astringent* Medicines, and also in what Cases they are most improper, and to be avoided, on that Account.

Now as a *Diarrhœa* is most commonly produced by a *stimulating* Substance in the *Guts*, or by a greater Secretion of watry Parts into them, it is very manifest, that *astringent* Medicines are altogether useless, and often hurtful, in the last Case; because they keep up, and are the Cause of, a *Diarrhœa*, of this Kind, by thickning the Blood, or the Mass of Liquors in general, which is the Cause of a *Diarrhœa* from *old Age*, and when it is the Follower of any other Disease. On the other Hand, *astringent* Medicines being applied to the Excretory Ducts of the *Guts*, may check the small Quantity of serous Parts that are discharged there by the common *Stimulus* of the *Diarrhœa*, and thus

thus may thicken the Stools, and put a Stop to the Diarrhoea; or, in that Sense, are the Cure of a *Diarrhoea*. Besides, *astringent* Medicines will, in some Measure, blunt the stimulating Parts, and thus prevent the *Contraction* of the *Guts* that was violent. And therefore, as *astringent* Medicines both *blunt* the stimulating Parts, and *thicken* the Stools, so they *stop* a *Diarrhoea*, and prove the Cure of it; as we find in Experience.

It will appear a very great Paradox, no doubt, to many, that *astringent* Medicines should, on any Account, excite a *Diarrhoea*; yet nothing is more consonant both in Reason and Experience. I will content my self with one Instance of this Kind in the Case of the *Scurvy*, mentioned among the excellent Observations of a commended Author, *Eugalenus*. ^a *I have known*, says he, *many proceeding in this Method of Cure* (by *Astringents*) *that could not succeed; but after a long time their Sick either became dropsical, died suddenly, or died in a Consumption*. Many such Cases might be brought from Authors of the best Credit, and that well deserve our Belief; but by these Examples it is plain, that *Astringents* are altogether insufficient, and ineffectual in these Cases, however much they have been depended

^a Pag. 416. Lib. de Scorbuto.

upon for a Cure by the generality of Authors, but against all Reason.

Astringent Medicines most commonly put a stop to a *Diarrhœa* produced by stimulating the Guts, but it has been often observed that greater and more dangerous Diseases, than a *Diarrhœa*, have ensued such Cures. This improper Use of *astringent* Medicines is still unavoidable, when Physicians do not know the *Causes*, or the *Nature*, of a *Diarrhœa*; whereas all these Difficulties are easily surmounted by the foregoing Accounts. Is a *Diarrhœa* the *Crisis* of another Disease; or is that Disease carrying off and determining by a *Diarrhœa*? The stopping then of a *critical Diarrhœa* is truly hindering the Cure of some great Disease, by a *Diarrhœa*; which Case requires very great Judgment to direct Physicians to refrain from such unseasonable Cures.

On the other hand, when a *Diarrhœa* follows some great Disease, and impedes the Cure of that Disease, by its continuing, speedy Care must be taken for curing the *Diarrhœa*; but especially, if, as in malignant Fevers, &c. *Life* and *Death* immediately ensue the curing, or not curing, of it speedily. Yet by the foregoing Account of the *Causes* and *Nature* of a *Diarrhœa*, binding Medicines strengthen the *symptomatical Diarrhœa*, instead of stopping it. And therefore

fore *astringent Medicines* are improperly given on all such Occasions.

But *astringent Medicines* are often improperly administered for the Cure of that Species of a *Diarrhœa*, where they are commonly useful; for do not *astringent Medicines* stop the small Quantity of *Serum* called forth by the stimulating Causes of a *Diarrhœa*? Do not *astringent Medicines* allay the Stimulus itself in some Measure? But then these powerful *Astringents* may hinder the due and necessary *Secretions* at the *Guts*, and lock up the stimulating Causes, from which flow the *Tenesmus*, *Colick-pain*, *Uneasiness at Stomach*, *Vomiting*, &c. Symptoms commonly observed. On the other hand we are now instructed how to avoid these Misfortunes, by not locking up the *Looseness* before the *Stimulus* is destroyed. And therefore we being informed of the proper Use of *astringent Medicines*, as well as to know when they are improperly administered; I proceed to relate the best *astringent Medicines* to be found among Authors, and these, both *Simple* and *Compound*ed.

The simple Medicines most generally commended, are *red Roses*, *Plantain*, *Quinces*, *Pomegranates*, *Currants*, *Berberries*, *Myrtles*, *Mint*, *female Fern*, *Carduus Mariae*, *Harefoot*, *Sumach*, *Lentils*, *Haws*, *Juice of Acacia* (with us, of *Sloes*) the inner
Rind

Rind of Oak, Cornel Berries, the Bark of the Service-Tree, Golden Rod, Shepherds-Pouch, Bistort, Tormentil, Solomon's Seal, red Coral, Earth of Lemnos, Bole-Armoniack, and burnt Harts-horn. Hippocrates has not only made mention of the greatest Number of the recited simple and uncompounded Medicines, but has likewise remark'd the different Effects they produce, especially when the Fruits are green or ripe. ^a Every Thing, says he, that tastes harsh and austere, binds up the Belly. And afterwards, ripe Pears make Men go to Stool, but unripe Pears stop a Loosness. Again, wild Apples stay a Purging, but they purge when boiled and taken for Food. Thus accurate was the great Hippocrates in attending to every Circumstance, when he made his Observations.

Joel has this Electuary.

℞ Conservæ Rosarum rubrarum, Diacytonem ex succo sine Speciebus ā ʒj. Trochiscorum è Spodio, è Terrâ sigillatâ ā ʒjss. Syrupi è Myrtillis q. s. f. Electuar.

This is found among the secret Medicines of J. Heurnius.

^a De vict. rat. lib. 2. Sect. 4. pag. 360. Fœf.

℞ Nucem

℞ *Nucem unam Moschatam pulverisatam, & tantundem Boli, misce cum Ovi vitello, & in patella coque sine Butyro in rotulas novem. Utatur primo die Semirotulam, postridie integram, tertio die sesquirotulam.*

But I am persuaded that these *Lozenges* may be taken more freely without any Danger.

Ludovicus Mercatus, an excellent *Italian* Physician, highly recommends the following Mixture; which, he says, has been found to be very useful, when drank warm in the Morning.

℞ *Saccharum Rosarum, solvatur in succo Cydoniorum & Aquâ Plantaginis, coletur, fervefiat, & exinde hauriat.*

Johannes Popius particularly praises the *Rob*, or inspissated Juice, of *unripe Sloes*.

We are told by *Petrus Forestus*, that a Man was cured of a *Diarrhœa*, after being ill of it three Years, by taking often the Powder of *Acorns*.

Simon Pauli likewise informs us, that many of his Fellow-Soldiers were cured of every Kind of Loosness, in *Germany*, by taking

king 38 of *Thlapsi-Seed* (or narrow leaved wild *Cresses*) after every Stool.

I have purposely omitted the bringing into this Place, all the binding Medicines we may find in the Cases of *Hemorrhages*; such as *Japan Earth*, *Dragon's Blood*, &c. frequently administred by Physicians; because they may be found in their proper Place, and are not now much wanted by any Physician who understands the forementioned Account of the proper Uses of *astringent Medicines*, for the Cure of a *Diarrhæa*. But the Omission should be very great, if I did not mention that excellent Composition of *Diastridium* by *Fracastorius*, which has ever since his Time been universally practised all over *Europe*, and where *Europeans*, or his Book, have ever been known.

The general Practice of this Medicine is an evident Proof of its Excellency, and that Physicians depend more upon it, than on any, or all, of the known Medicines. Its Perfection may be now judged of, by my Account of the Nature of a *Diarrhæa*, and the true Designs I have shewn of curing it; and its Defects are easily supplied by the forementioned Account. But for the Want of knowing a *Diarrhæa*, and the Method of its Cure, the late Doctor *Radcliff* made a conceited Improvement of this Medicine of the learned
and

and excellent Physician, *Fracastorius*; which is so far from improving this Composition, that it renders it both useless in the Cure of a *Diarrhœa*, and dangerous in the Practice of it, in *Fevers*, and many other Diseases; for which it is, otherwise, found to be very useful: And therefore it has deservedly surprized every Physician, that this Deformity of a Composition was thrust into the late *London Dispensatory*.

The Composition of the most elegant *Fracastorius* may be found in his ^a Book of *Contagious Diseases*, and was first contrived for the *malignant Fever at Trent*, which was followed with a *Diarrhœa*, and is pretty faithfully copied into the Dispensatories of other Nations. I will therefore add some Forms that owe their Success to this excellent *Diascordium*.

Franciscus Sylvius, then, prescribes this Mixture.

℞ *Diascord.* *Fracastor.* ʒij. *Confection.*
Hyacinthor. ʒj. *Syr. Myrtin.* ʒj. *Aq.*
Cinnamomi hordeatæ Plantagin. a ʒij.
M.

By the Quantity, he designs it for two Doses, or three. But he recommends the follow-

^a Fol. 104. pag. alterâ lib. 3.

ing Electuary to those that may not like the former Mixture.

℞ *Conservæ Rosarum rubrarum* ℥ij. *Diascordii Fracastorii* ℥ij. *Confectionis Hyacinthorum* ℥j. *Cornu Cervi usti & pulverisati* ℥℔. *Syrupi Myrtini* q. s. ut F. *Conditum*.

This Method has been often taken very successfully.

℞ *Confectio. Fracastorii veræ* ℔j. *Speciei ad Confect. de Hyacinth.* gr. xii. *Laudani Londinens.* gr. j. *Syr. de Rosis siccis* q. s. ut f. *Bol.*

As also the following Mixture.

℞ *Aquæ Lact. alexiteriæ* ℥viii. *Diascordii* ℥℔. *bulliant*, & *Colaturæ adde Aq. Cinnam. fortis* ℥ij. *Laudani liquidi Sydenhami Gutt.* xx. *Syr. fl. Caryophyllorum* ℥℔. *M. F. Julap. Hujus exhibentur subinde cochlearia* iv.

The most proper Drink to be commonly made use of by the Sick, is *Rice-Decoction*, *Toast-Water*, and the common *Harts-horn*, or white Drink.

Among

Among the common People an *Egg* boiled in *Vinegar*, or *Brandy*, is a great Remedy for a *Diarrhœa*. Our People might have it from the Practice of Physicians, from the *Rosa Anglica*. But ^a *Galen* had some hundreds of Years settled the Character of that easy Remedy. Moreover, says that excellent Physician, *if an Egg boiled in Vinegar is eaten, it will dry up a Flux of the Belly*.

The learned *Helmont* extols the same Remedy, with some small Variation in the cooking it. A *Diarrhœa*, he assures us, will be cured with two *Tolks* of *Eggs* boiled in *Rose Vinegar*, and taken by the sick Person.

I might add a great Multitude of Medicines out of Physick-books; but I will only add one more of a different Form from those I have already given. It is a *Plaster* of *Nævius* for the Belly; and it is certain, that *Plaisters* do more in this and other Diseases, than modern Physicians have lately believed.

℞ *Orizæ torrefactæ* ʒj℞. *Mastichis*, *Thuris* ā ʒij. *Glandium* ʒiij. *Myrtillorum* ʒ℞. *Resinæ Pini*, *Ceræ flavæ* ā. q. s. ut. f. *Ceratum*.

^a Lib. 11. de simp. Medic. Facult. p. 81.

S E C T. IV.

Of Opiates, Bleeding, Bathing, and Exercise, for curing a DIARRHOEA.

AS *purging and astringent Medicines* are principally depended upon by Physicians for *curing a Diarrhœa*; so *opiate Medicines*, the third and last Resort of Physicians, come now to be considered. *Opiates* are not only given alone, but are often mixed with the forementioned purging and binding Medicines, to strengthen and ascertain their Operation.

We will then consider the Efficacy of *Opium* and *opiate Medicines* by themselves; for thereby we shall be enabled to make a Judgment of the Effects they are like to have, when they are combined with other Medicines.

The most sensible Effect of *Opium* is its laying Men quiet, and rendering them insensible, or very little sensible, of Pain; and I wish the Way this is done, were tolerably well known. But it is likewise supposed to be a *diaphoretick* Medicine, though, the Experiments, brought to evince this its Operation, by no Means prove it; and its Effects in the Cure of a *Diarrhœa*, shew its Power that way to be very inconsiderable.

From

From this its *quieting* Faculty it follows, that a *Diarrhœa*, caused by *stimulating* the *Guts*, may be cured by *Opium*, and opiate *Medicines*. For as we are quieted, by *Supposition*, with *Opium*, or that we are rendered insensible of the *Stimulus* by opiate *Medicines*, the stimulating *Causes* work themselves off while our *Intestins* are not irritated with the *Stimulus*. Now the stimulating Matter being expelled, the *Contraction* of the *Guts* becomes natural; or, which is the same thing, we do not go praternaturally to *Stool*, or we are cured of a *Diarrhœa*. This Effect of *Opiates* will always be in Proportion to the Quantity of the stimulating Matter, or the Degree of its Sharpness.

On the other Hand, *Opium* does nothing of it self in the curing a *Serous*, or *watry Loosness*, and consequently its *strengthening* and *diaphoretick* Power is indiscernable, and next to nothing. Physicians continue under mighty Mistakes as to the Usefulness of *Opium*, and attribute Effects to it very different from this its quieting Power; tho' they are altogether owing to it. They find that an opiate Dose obtains a good Night to the Sick, and that they do not go so frequently to *Stool*. The *Sleep* is a common Effect of *Opium*, and the Insensibility of the Sick a Consequence of their *Sleep*; but if we examine into the Progress we make in the Disease,

that is truly nothing; for the Stools are as thin and liquid as before, and more fetid, and the Quantity is just the same as if they had their common Number of Stools in the time of their Suspension; *b. e.* a Person going a Quarter of a Pint every Hour, but now having not gone in five Hours by the Force of *Opium*, his next Stool will be above a Pint; a plain Demonstration, that the Secretion has been the same in all that time, but that the Guts were not irritated, either by the *Sharpness*, or *Quantity* of the Excrements. This Observation I aver to be very constant in this Kind of a *Diarrhæa*.

The fatal Mistakes that are the Consequence of these false Analogies of Physicians, are innumerable. To this is owing the pretended, but false, Reformation of *Diascordium*; but as that were not enough, *Juleps* loaded with *Venice-Treacle* and this new-fashioned *Diascordium*, have, to my Observation, been a very common Conveyance of the Sick to the Shades, under the Direction and Conduct of the Reformer himself. I hope, for the future, Physicians will conscientiously distinguish between the Sick being carried off by the Violence of a *Diarrhæa*, and by the quieting of the Remedy administered, with a good Intention, for its Cure.

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The Helps of *bleeding* and *bathing* must next be considered; for they have been found useful in some Cases, tho' they are not so pressingly and effectually recommended as either *purging*, *binding*, or *opiate Medicines*: So they seem rather to have been tried in desperate Cases, than much to be depended on in our common Practice. However, as it has been my Endeavour all along to discover the proper Quality a Medicine has, that fits it to Cure a *Loosness*, and from thence to determine its probable Success, I proceed to examine into the Usefulness of *bleeding*.

Now as no Body can imagine that *bleeding* can change the Sharpness of the Excrements, it is plainly no Cure of a *Diarrhœa*, which is produced by stimulating Causes. Moreover, as *bleeding* cannot restore the defective Secretions, which are the Cause of a *Diarrhœa* from *old Age*, and Diseases; so it is very certain, that bleeding is not so much as *indirectly* the Cure of a *Diarrhœa*. Yet as *Leonardus Botallus*, *Zacutus Lusitanus*, and some few Authors, have found *bleeding* useful in the Cure of a Loosness, we will hereafter consider these Cases; especially that they are Cases of *Dysenteries*, and that these Physicians recommend bleeding in a mighty small, and inconsiderable Quantity.

Bathing likewise is not a direct Method in the Cure of a *Diarrhœa*, however useful it may be in a Circumstance or two; which shall hereafter be considered, when I settle the Practice of the *Dysentery*; yet as it neither destroys, nor carries off, the *Stimulus*, one general Cause of a *Diarrhœa*, nor restores the other Secretions, *bathing* cannot be a Cure of a *Diarrhœa*. It is true, *bathing* naturally augments Perspiration, and may, for that Reason, be supposed to be sometimes useful: But as this Perspiration cannot continue longer than the time of *bathing*, and must be lessened after the bathing, it is certain that bathing will do nothing towards a Cure. The Truth of all this is manifest from what *Sanctorius* tells us, that ^a *warm Air, and Baths actually warm, help Perspiration, and cool the inward Parts, and make our Bodies lighter, excepting in Cases of Crudity*. Now, whoever understands the Language of Physicians, will acknowledge, that *bathing* can never Cure a *Diarrhœa*, because it is occasioned by a great *Crudity* of *Blood*, which is not helped by *bathing*.

We come lastly to consider what *Exercise* does in curing a *Diarrhœa*. *Hippocrates* has no where recommended *Exercise* for curing any *Loosness*. He tells us,

^a Lib. 2. de Morb. Mulier. pag. 707.

^b that

^b that travelling in Carriages that are hung cures the Whites of Women; but as I formerly observed, he mentions People ill of a Loosness by *Exercise*. And, speaking of walking, he tells us, ^c that walking in the Morning makes us go to Stool. When the elegant Corn. Celsus treats of the curing a *Diarrhoea*, he is very cautious in recommending *Exercise*; and indeed speaks of that which is not violent. ^d There is no want, says the great Celsus, of walking nor of rubbing in this Distemper; it may be useful to ride in a Chariot, or rather a Horseback; for there is nothing that strengthens the Guts more.

Physicians in these latter Times, and who have nothing of that Experience of *Exercise* that was so common among ancient Physicians, are less cautious in recommending it, and write more in Praises of it. What great Perversion, says Dr. Sydenham, can we imagine to be in the Functions and Offices of our Bodies, or what other natural Defect in their Organs, which so many thousand Jolts repeated in the open Air, in one Day, are not sufficient to retrieve? Whose native Heat can be so much extinguished, as not to be faned by this Motion, and begin again to glow? And in another Place he so far extols *Exer-*

^b Lib. 2. de Vict. rat. pag. 334. 335.
Cap. 19.

^c Lib. 4.

cise (riding a Horse-back especially) that he recommends it as expressly for a Cure of *Consumptions*, and to be as powerful, as the *Jesuits-Bark* for the Cure of an *Ague*.

Dr. Sydenham, without doubt, had a very high Esteem of *riding*, when he thus recommends it without Measure. He seldom falls into such Faults; but it is the Fate of good Men to run into some Excess in the Praises of what they value; tho' perhaps he found this Kind of Argument necessary to make this Exercise to be well received by the People.

It is certain, that *Exercise* was cautiously received into the curative Branch of Physick, and that it was first invented for keeping Men in Health, and preserving them from falling into Diseases, or their inroaching upon Life; yet Exercise, in a very little Time, came to be so much in Vogue, that it did not remain within its first Boundaries, but was extended as the surest and safest Method of curing many Diseases. *Herodicus*, a Physician of great Esteem, very much contributed to recommend *Exercise* in the curative Branch of Physick; but his Error and well-intended Zeal was smartly reprov'd by his Scholar *Hippocrates*. *Herodicus*, he tells us, *exhausted People ill of Fevers with much walking, with frequent wrestling, and fomenting, and that very wrongfully; for starving, wrestling, walk-*
ing,

ing, running, rubbing, and the like, do great Hurt in the Cure of a Fever. And *Plato* speaking of *Exercise*, when it is employed even for keeping Men in Health, has this excellent and instructive Aphorism *μη τὰ πολλὰ ἀλλὰ τὰ μέτρια γυμνάσιον ἐν χεῖρι εἰμποιεῖν τοῖς ἀνθρώποις*, *b. e.* that it is not much Exercise, but exercise within Bounds and Measure that gives Men a good Habit of Body.

And therefore we will return to consider how directly *Exercise* tends to cure a *Diarrhœa*, as also the Kind of *Exercise* recommended by the great and learned *Celsus* for that Purpose; and how far *riding* is to be continued with *Safety*.

Exercise accelerates the Liquors of the Body, and makes so great a Separation of all of them, that the Body is rendered thin and lifeless under a long Continuance of the more violent *Exercises*: These were never designed in any Degree for curing a Disease, however useful they were believed to be for keeping Men in the present State of Health they possess'd, when these Exercises were well moderated and measured. Insomuch, that we find *walking*, an Exercise much recommended in the *prophylactick Way*, altogether excluded and forbidden by the excellent *Celsus* in curing a *Diarrhœa*; who, at the same time, recommends the Practice of *riding*.

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It is manifest from the general Effect of Exercise, that the Discharge by Perspiration is great, and often very sudden; but *riding* promotes *Transpiration*, by rendering the Blood liquid, and encreasing its Motion; for if we consider a Man on *Horseback* under any Degree of Motion whatsoever, his Liquors not only flow by the *Heart* and *Arteries* (their common impelling Causes) but they likewise partake of the common Motion of the *Horse*; which compounded Motion not only increases the Motion of the Blood in general, but comminutes and divides its Parts differently in different Vessels, according to their Directions. Now the Blood rendered more liquid, and having its Velocity augmented, makes greater Secretions at the Glands of the Skin, or the Transpiration is augmented. But a greater Quantity of the serous Part of the Blood being transpired, a less Quantity of *Serum* is secreted at the *Kidneys* and *Intestines*; and it being on Account of great Quantities of this Serum being discharged into the *Guts*, that the most dangerous Sorts of a *Diarrhœa* proceed, and a less Quantity being secreted at the *Guts*, by *riding*; it is manifest that *riding* is a direct Cure of that Kind of *Diarrhœa*. On the other Hand, the Expence of Spirits made by *old People*, and People worn out by some other Diseases (who are principally

pally subject to the *Diarrhœa* that is cured by Exercise) is so great by walking, that they cannot *walk* long enough to comminute their Blood as to excite Transpiration, to any Purpose. On the contrary, the Waste of Spirits made in the *Muscles* that serve to *walking*, leaves the Blood in a grosser State, and so rather encreases, than cures, the *Diarrhœa*, as the great *Celsus* had observed; and was the Reason why he forbade *walking*, and recommended *riding*, for the Cure of a *Diarrhœa*.

It follows from this Account, not only that this is the Sort of *Diarrhœa* cured by *riding*, but also that *riding*, or any other Exercise, cannot affect the *Sharpness* of the *Stools*, (the other general Cause of a *Diarrhœa*) and cannot therefore prove a Cure for the Kinds of *Diarrhœa* that proceed from that Cause.

It follows likewise that a *Diarrhœa* from the Causes of *old Age*, &c. are no otherwise cured than as the Blood becomes stronger, and more pure by Exercise; and consequently, that the *strengthening* of the *Guts*, supposed by *Celsus*, and the Cure of the *Whites*, and the strengthening of the *Womb*, mentioned by *Hippocrates*, only follow the general Strength acquired in the whole Body by *riding*; so that tho' *riding*
cures

cures a *Diarrhœa*, when the Body is strengthened, yet that is not an Effect of the *Guts* being stronger, but both of them are an Effect of the same common Cause.

It follows thirdly, that *riding* will never prove the Cure of a *Diarrhœa*, when *riding*, or any other *Exercise*, renders the sick Person weaker. This plainly flows from the foregoing Account, and is very constant in Experience; however modern Physicians have not attended to it. Ancient Physicians, who were sagacious Observers, have been apprized of some ill Effects that followed the *Violence*, or a *continuing* too long in the Exercise they had recommended. *Galen* reckoned *riding*, both an *Exercise*, and a *Labour*; which therefore, in his Opinion, was great Exercise. Hence, Physicians, in the Cases of *weak* People, recommended rather the carrying them in a *Chariot*, a *Litter*, or a *Chair*, but more particularly the carrying the Sick in *Hammocks*, *Cradles*, and especially *sailing*. *Asclepiades* (who first invented Hammocks) contrived them on a double Account; both that by their swinging they might draw on *Sleep*, and that they might wear out Diseases.

To this use of easy *Exercise* was added the use of *Cradles*, first mentioned by *Celsus*; but *sailing* was preferred to all of them in the Cure of many Diseases. *Celsus* particularly

ticularly commends *sailing* for every Kind of Cough. *Celius Aurelianus* and *Aretaeus* say, that *sailing* is a good Cure for the Headach, an *Epilepsy*, (if the Sick can agree with sailing) for *spitting Blood*, for a *Consumption*, *Jaundice*, and a *Dropsy*. *Sailing* was held of that Esteem by ancient Physicians in Cases of *Consumptions*, that *Pliny* informs us of a constant Practice of consumptive People to sail to *Egypt* for their Health. *Anneus Gallio*, who was very consumptive, went to *Egypt* at the End of his Consulship, and recovered his Health. *Plutarch* has this proverbial Expression, *that it was pleasantest sailing near the Shore, and walking near the Sea*. So great a Value Authors had of sailing.

On the other Hand, modern Physicians, who have little Experience of *Exercise*, recommend it vehemently, and their Recommendations of this Nature are received as any other modish and fashionable Piece of Physick; whereas had they considered *riding* to have different Effects, on a *trotting* and an *ambling* Horse, on an Horse that has an easy walk, and one that goes very hard; they might have esteemed *riding* an Exercise full of Labour and Fatigue, as *Galen* had done: nor should we have so great Encomiums on *repeated Joltings in the open Air*, which *Dr. Sydenham* elegantly recommends, without

out great Judgment. Not only *Galen* makes this Distinction in riding, but *Hippocrates* has recorded, for our Information, that *continual riding* (so zealously recommended) *begets great Weariness, and renders Men unfruitful, and unfit for Generation, &c.*

From which Considerations we may conclude, that we ought to be well advised of the Consequences of Exercise, before we direct it. We ought to know what Bodies are fit and unfit for Exercise. As also Physicians ought to weigh the Nature of the Disease for which they would recommend Exercise; for there is a certain Dose of Exercise, proper for Men of different Constitutions, and as they may labour under different Diseases, as well as under the various Circumstances of any one Disease.

This Difficulty is greater (if possible) at present than formerly, though it is not so ingenuously acknowledged. *Galen* declared, that nothing rendered Physick so conjectural as the small Knowledge Physicians had of the *Virtues* of Medicines. But what the great *Mercurialis* informs us of, is a mighty Scandal to Christianity, and a standing Reproach to many Members of our College at this time, who make a Sale of Men's Lives, without Remorse; while Pagans forsook the gainful Practice of Physick, because they could not arrive at the Skill of dosing Medicines.

dicines. *Ex iis rebus, says the learned Hieronymus Mercurialis, quæ Medicorum artem conjecturalem & pene incertam efficere a multis creduntur, præcipuam remediorum omnium adhibendorum mensuram esse, semper putatum fuit; quam nonnulli antiquorum aliquando tanti fecerunt, ut quasi ejus cognoscendæ spe dejecti medicinae opera exercere recusaverint.*



CHAP. VII.

The Practice of Physicians for the serious and symptomatick DIARRHOEA; with the Species of a DIARRHOEA, that are most easy, or more difficultly cured; or the Prognosticks of a DIARRHOEA deduced from Practice.

IN the foregoing Chapter we find the Cure of a *Diarrhœa* has been altogether managed by Physicians with *purging, binding and opiate Medicines*, which they have administred without any other Skill

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or Design, besides that these Sorts of Medicines have sometimes been found useful in the Cure of a *Diarrhœa*; and without having Skill to avoid the Times when these very Medicines have proved very hurtful, and pernicious, in the Practice of a *Diarrhœa*. But by the Account given in the fore-mentioned Place, it is manifest, why *purging*, *binding* and *opiate* Medicines cure a *Diarrhœa*; and the Sorts of a *Diarrhœa*, that can possibly be cured by these Medicines, have been determined. We find, *viz.* that every *Diarrhœa* produced by stimulating Excrements, and which the judicious *Celsus* had long ago told us how they cured themselves, may be cured by *vomiting*, *purging*, *binding* and *opiate* Medicines. *Sed uno die fluere Alvum sæpe pro valetudine est: atque etiam pluribus, DUM FEBRIS ABSIT, ET INTRA SEPTIMUM DIEM ID CONQUIESCAT.* It is evident then, that a *Diarrhœa* from a Stimulus, cures it self, or may be carried off by a purging Medicine. But when a *Diarrhœa* is joined with a *Fever*, or (which is worse) follows it, how unaccountable are these Physicians, who leave those sick People upon Nature; or how treacherous are they, who delude the Sick with the Danger of putting a Stop to a *Diarrhœa*; and that only, because their Endeavours to stop it prove fruitless? We find, by this Account of *Celsus*, that the false Courage they give their Patients,

Patients, neither proceeds from Physick, nor common Honesty.

But what is truly deplorable, we find not any Means in Physick for curing the half, and these the most dangerous Sorts of a *Diarrhœa*; wherein the common and ruled Methods are really pernicious and hurtful.

Francisc. Deleboe Sylvius, ^a gives us a very poor Account of a *serous Loosness*, and the Practice, arising from such Accounts, can hardly prove successful. *The Blood*, says he, *becomes serous by drinking too much Water, Beer, and even Brandy-Wine, whereby the Firmness of every Part is destroyed, and the Tone of these Parts brought to Ruin.* And in the Cure of this *Diarrhœa*, he gives us this extravagant Advice; *nothing hinders, if nothing else forbids it, to evacuate sometimes a great Part of this superfluous Serum by a Purge that carries off Water.* Now we find all the foregoing Reasoning and Experience forbid this Practice; and I wish he had mentioned these Things, that did forbid this his Method, in his own Experience; but he does not seem to have any Notion of this *Diarrhœa*.

Doctor *Willis* give us a better Account of the Violence of a *serous Diarrhœa* at

^a Lib. 1. prax. cap. 13.

some Times ; but at the same Time thinks it so very violent, that it no longer deserves that Name, which he therefore calls *an unbloody Dysentery*. We will not examine what right the *Doctor* has to call this a *Dysentery*, it being more to the Purpose to receive his Account of this violent Distemper, and what ill Success attended the Practice of *vomiting, purging, and the forementioned Medicines*.

^a *In the Year 1670, says the learned Doctor, and about the autumnal Equinox, very many were seized with this unbloody, but sharp, and most dangerous, Dysentery. A Distemper that took those, that laboured under it, suddenly and frequently, without any manifest Cause, with violent vomiting and frequent Stools, and these watry; so that they were quickly reduced to the greatest Weakness, and into the most frightful Faintness and loss of Strength. I have known many strong Men that, but the Day before, were in good Health; yet, in twelve Hours, they were so dispirited under the Tyranny of this Distemper, that they seemed to be in a dying Condition, with a weak Pulse, cold Sweats, and with a difficult and heaving Breathing; and a great many were quickly killed with the Disease, for want of proper Medicines and good Advice. Few, at that Time, had bloody Stools, and very few had bilious*

^a De medicam. Oper. Sect. 3. Cap. 3.

Stools;

Stools; but the Stools of a great Multitude were watry, almost clear Water, and in great Abundance.

Thus Doctor Willis describes the serous Diarrhoea, in his Time; but he finds, that the Cure of it cannot be managed by the great, common, and only Medicines, administered for that Purpose. *Evacuations of any Kind, says the mentioned Doctor, were of no Manner of Use, and bleeding, vomiting, and purging, were always hurtful; but Cordials, and the strongest of them, that abounded most with Spirit, and Sulphur, and volatile Salt, were the most beneficial; insomuch, that Brandy, burned with Sugar, was a common Remedy among the People; which was found very useful in that Sort of Dysentery.* In this View he prescribes several Forms of Cordial Medicines, whereof I will add one or two; because the rest may be found in that part of the Doctor's Book I have already mentioned.

℞ Theriac. Andromachi ʒj. vel ʒjss. Summat in lecto, superbibendo Julapii sequent. cochlear. viij. vel viij. & repetat. tertiâ, quartâ, vel quintâ quâque horâ.

℞ Aq. Menth. Cinnam. hordeat. ā ʒiij.
Aq. Cinnam. (fortis fortasse) Epidemic. Theriacal. ā ʒij. Margar. Pul. ʒj.
L 3 Sacchar;

He advises moreover to give twenty Drops of liquid *Quince-Laudanum*, if the sick Person's Pulse keeps up, and his breathing is easy; so judiciously cautious is the *Doctor*, in administering *opiate Medicines*, even in Cases of Pain; though we may learn afterwards, that *Doctor Sydenham* found that Kind of Medicine useful, in this very Distemper, in *London*.

This is a very remarkable History, but what has made very little Impression on the Physicians in this Town, in Cases of a *Diarrhœa*; for they have fallen back into an indiscriminating Practice by *purging Medicines*; and often carry off their Patients, sooner than the Disease.

But I must observe, that the learned *Doctor Willis* finds it very difficult to account for this Disease; and no wonder! For he supposes a Man can fall suddenly from perfect Health, into this languid and dispirited State; a Supposition, equally contrary to Reason and Experience. It is one Thing, for an ordinary Man unacquainted with the Changes of his Body, to relate such a Fact to his Physician; and altogether different for a Physician not to discover the previous Causes that brought his Patient into this ruinous decay of Strength. This Instance shews the different Notions
Physicians

Physicians must take from a plain Theory, drawn from, and confirmed, by Experience; and ever so great a Multitude of Cases, and Observations, that are not duly explained. I persuade my self, that my Reader, who truly understands what I have said of the *Causes* and *Nature* of a *Diarrhœa*, has a juster Notion of this Case, than he had, before he considered my foregoing Theory. The sudden Dejection of Spirits was, in these Cases, so great, that the learned Doctor could not think any other Cause sufficient, *besides a Corruption of the best Juices of the Body, viz. the nervous and nutritious, already joyned to the solid Parts of the Body, that were melted down on this Occasion, and did redound in the Mass of Blood*; which last Expression, I must own, gives me no manner of Idea.

But that Men were only, apparently, well to their own thinking, and had a real Disease preceded this wasting, serous, *Diarrhœa*, may be known by what the *judicious* and *sagacious* Doctor *Sydenham* informs us; as well as by my mentioned Theory; which is no small Confirmation of the Truth of it, and is, at the same Time, no mean and inconsiderable Proof, for the Necessity of Thinking, in Matters of Physick.

I proceed with this Account, which Doctor *Sydenham* gives us, of the *Diarrhœa* (*Dysentery* as he likewise calls it) in 1670; because it

is both desirable to know this particular History, and that we may see how my Theory *confirms, corrects and improves* their Experience, and extends to infinite more Cases, than the few Instances and Examples of Doctor *Willis* and Dr. *Sydenham*; which is, on that Account, infinitely more instructing.

Doctor *Sydenham* does not pretend that People fell ill of this *Diarrhœa* all of a sudden, or that it quickly killed Men, that were lately in Health and Vigour. For it began *with shaking and trembling, which were followed with an universal Heat over all the Body (as is common in the Cases of Fevers) then came the Gripping, which was quickly followed with Stools.* It is true, he tells us, that the Gripping was often the first Complaint, and that the Stools followed it; but this was very seldom, for he informs us, that *the Sick were commonly feverish, with a Tongue deep furred with white, which was sometimes black, when they had more Fever, as he conjectures.*

It is not possible for a Man, at once, to fall into so great a Loss of Strength, as is acknowledged, by both these eminent Physicians, to have been common in this *Dysentery*, as they name it. However, it will be very useful to relate, from Doctor *Sydenham*, some calamitous Circumstances of this Disease, that are not to be found in Doctor *Willis*. *The Spi-*
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rits of the Sick were dissipated, their Strength destroyed, and they had every Symptom of a malignant Fever. This Distemper did not only occasion the greatest Pain and Sickness, but carried the Sick also into the greatest Danger of Life, if it was not skilfully treated; for, as the Forces of vital Heat and Spirits were destroyed, by the frequent Stools, and exhausted, before the peccant Matter could be thrown out of the Blood, so they were in continual Danger of dying, the Coldness of Hands and Feet coming upon them, and Death it self became desiræable in a shorter Time. The Doctor proceeds to relate some very fatal Consequences of this Disease, in those who escaped the Fury of the Distemper; but as all, or most of them, are only more, or less, the same, it would not be of any Use to transcribe them into this Place.

In raising Indications for curing this supposed *Dysentery* (for there are no Symptoms of that Disease (besides the Gripping) in this present History) which are likewise common to *Colicks*, a *Diarrhœa*, as well as a *Dysentery*; Doctor Sydenham tells us expressly, that he found it was a particular Fever, turned inwards upon the Bowels; or, in the common Language of Physicians, that this *Diarrhœa* was the Symptom of a Fever. But as I have already explained that State and Circumstance of a Fever, when a *Diarrhœa* follows it; and

as that Explanation, I may presume, is more natural and mechanical, than the Account given here of it, by the Doctor, I will only observe, that Examples of this Kind of a *Diarrhœa* are very few, but the Practices proper on these Occasions, are still fewer; since that by Doctor *Willis* is the most direct, however imperfect. These Considerations, and the vast Mortality that ensued upon the contrary Practice, to that followed by Doctor *Willis*, ought to have made their Followers more cautious, and not to have insisted upon *purg- ing, bleeding, and Opiates*, so pertinaciously, and improperly, as we find they do at this Time.

The sagacious and worthy Doctor *Sydenham* seemed willing to have compared this *Dysentery*, he relates, with that, which is very common in *Ireland*, and of which, he seems not to have had any Account; but as the *Dysentery* in *Ireland* is the same we find described in the Books of Physick, and which I am afterwards to explain, it is needless to make the Comparison which the Doctor seemed inclined to do, more especially, that his Wants are truly answered, in the Account I have already given. *Perhaps*, says that candid Physician, *there may arise as different and various Sorts of Dysenteries, as there are of Small Pox, and other epidemick Diseases, that are proper and peculiar in different*

ferent Constitutions, and which, on that Account, require a proper and peculiar Method of Practice.

I cannot refrain from adding what this worthy Person continues, because it gives us a just Taste of the Usefulness, and the Difficulty of the Method, I have pursued. *We need not wonder at the sporting of Nature in this Matter, since every one readily confesses, that the more deeply we penetrate into any of the Works of Nature, the more clearly we may discern the great Variety, and almost divine Artifice, of its Ways of working, which far surpasss our Reach and Understanding: Insomuch, that whoever he is, who takes upon him, to have a right Conception of these things, and would trace out, Step by Step, the various Operations of Nature, must partly fail in so great an Undertaking, and never hope, to be altogether Master of his Wish: In the mean time, he may assuredly propose to reap Reproaches, instead of a plentiful Harvest, he might expect, for so great and useful Discoveries; and for the very Reason, that he is the first that made them.*

Had this, and other, so great and penetrating Authors, not so pertinaciously insisted in a barren and an impossible Method of Inquiry, they had certainly prevented any after Search; for I am verily persuaded, that their
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Capacities for such Inquiries, were greater than mine, and the Advantages I have, in being more successful, is altogether owing to my Method. How is it possible to delineate every particular Appearance of a *Diarrhœa*, because their Variations are truly infinite; or to how little purpose should this Account serve, if it was possible? For to Instance in a symptomatick *Loosness* only; May not a *Diarrhœa* follow, and be the Symptom of every Disease? and if we comprehend the different Degrees of Violence, that offer themselves to an Observer, the Account is manifestly endless. If this, then, is the Case of one Species of a *Diarrhœa*, how immensely must this Account swell, if we were to record the various, and more than infinite, Cases of every *Loosness*, and its Species? It would not only be the Work of Ages, to collect these Histories, but no Man lives long enough, to peruse the Collection.

It is surely, far more natural, easy, and practicable, to collect the most constant Symptoms of every *Loosness*, and to endeavour so to explain these Symptoms and Effects of a *Loosness*, that they may lead us into their Nature, and the Causes of every Loosness. If then we can come at the Nature of every Loosness, there remains no Difficulty about the Way of curing them, be their Appearance and Shape ever so various and infinite.

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The direct Method of curing being thus obvious, the Probability of Success must be, as is the Nature of the Looseness we come to cure, and the Force of the Medicines we administer respectively; all which I have endeavoured to perform, in the foregoing Work. I confess, I might have done this more minutely, and more to the Satisfaction of some few Readers; but I am afraid, I should have disgusted and discouraged the far greatest Number, whose Good and Benefit I intend. However, as the Curableness and Incurableness of a *Diarrhœa*, and its Kinds, have never yet been distinguished in Practice, it may be useful to illustrate and adorn that Part, in a few Examples, that, at least, Physicians may discern the Difficulties they enter upon, in the Cure of every particular Person, that is put under their Care.

In order to perform this with the greatest Clearness and Prespicuity, I reduce my Experiences into the most difficult Cases of every Kind of a *Diarrhœa*; and as the Practice in them has always been by one, and that, the best Medicine, that was ever administered for the Cure of that Disease; we may quickly perceive, which Sort of *Diarrhœa* most readily yielded to it, and which is most ready to return, after it has been suppressed by the Medicine, or, which is all the same, we perceive what Species of a *Diarrhœa* receives
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the most perfect Cure, and which of them is naturally most obstinate, and resists most, this one, and best Medicine ; for, as I have very commonly succeeded with this Medicine, after the Medicines in common Practice have proved altogether useless, in the Hands of the most eminent Physicians, these thirty Years ; so, the Facts that I am to relate, may be considered, as if established, under the Practice of any other Medicine.

I will begin with the Sorts of a *Diarrhæa*, that are most easily cured, but that have resisted the Practices of other Physicians, unacquainted with a right Theory of a *Looseness*, and that were not assisted with so powerful a Medicine ; I will next proceed to more different Cases, in that Kind, and afterwards, to those Sorts, that are more untractable in their own Nature.

HISTORY I.

In the Year 1707 *Brigadier* (now Major) *General Crowther* had been a considerable time ill of a *Diarrhæa*, under the Direction of the late Sir *Samuel Garth*, who had tried every Method for his Recovery. But as the *Brigadier* grew very weak, and his *Diarrhæa* did not abate of its Violence, he sent for me. I found the *Brigadier* going about thirty times in twenty Hours. His
Pulse

Pulse was quicker than natural. He was without Sleep: He still continued to be griped, not only before he wanted to go to Stool, but in the intermediate times also. I ordered him that Morning the following Powder.

R. Pulver. radic. Rhabarb. electi ʒj. *Cin-
namomi acerr. gr. viij. M. F. pulvis
quantocius exhibendus.*

When the Operation of the purging Powder was over, he took, about six that Evening, a Dose of my Medicine for curing a *Loosness*. I called at eight, and he told me, he thought himself already cured. He had eight Stools after the Powder, but never a Stool after the Medicine. I left him two Doses more of my Medicine; one to be taken at Bed-time, and another the next Morning, if he should have a Stool in the Night. He did not take this third Dose, because he had no more Stools. However, he took this Dose next Evening, as he was laid to sleep, and was perfectly recovered of the *Diarrhœa*.

HISTORY. II.

I could give hundreds of Examples of such sudden Recoveries of every *Diarrhœa*

and other *Loosness* of this Kind, if such Cases were of any Use to Physicians. I proceeded rather to another Instance of the same Kind, but where the Patient was weaker, both naturally, and by the continuing of her Disease, with a very weak Constitution. I was called on *Sunday December* the 18th to Miss *Nairn*, a Daughter of Sir *David Nairn*. This young Lady is of a very weakly Constitution, which was very near worn out with a *Diarrhœa*, that held her for a long time, with great Violence. Her Physicians had often gone the Round of *purging* and *binding*, and never failed of an *Opiate*, without an Abatement of any Symptom.

This young Lady was so weak, that she could not bear any *purging* Medicine, for this Reason, this Clyster was injected, before my Medicine was administered.

℞ *Baccar. Juniperi contusar.* ℥j. *B. flor. Chamæm.* 3vj. *Bulliant in Aq. commun.* ℥x. *ad vj. Colaturæ adde dimidium Ovi vitelli, Ol. juniperi* 3j. *M. F. Enema.*

When the Clyster came off, she took the first Dose of my Medicine, and was perfectly cured with three or four more Doses, by the 20th. I met that Day her former Physician at *Old Man's Coffee-House*, who askt, what Hopes I had, to cure this Lady, and
when

when I told him, I believed, I should cure her, he answered me pertly, and with some Assurance, that it was impossible for me to do it. I offered him a Wager for her being well next *Thursday*, (for she was at this time recovered) but he was not so free to venture his Money, as his Words.

HISTORY III.

I was desired by Sir *Hans Sloan* to visit a Gentlewoman in *Moor-Fields*. We met on *Wednesday* in the Evening. She had many *Stools* with *griping*, and was so exhausted with the *Diarrhœa* and *Age*, that I told Sir *Hans* she had not Life enough left to recover; but that he might judge of the Efficacy of the Medicine, I did not doubt of putting a Stop to her *Loosness* before she died. She took my Medicine, and her Disease was cured by *Saturday* Morning; but she died on *Sunday*.

In all the Kinds of a *Loosness*, the Sick drink the common *Hartshorn Decoction*, it being properly enough contrived, and being a Drink very agreeable to the Sick.

But to put an End to the Practice of this Kind of a *Diarrhœa*, I am fully persuaded, that my *Medicine* is an absolute *Cure* for all those Cases, if it is administred when the

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Sick

Sick are left with a possibility of retrieving their ruined Strength. For in many hundreds of Experiences, I have always found, that People in the most desperate State of Weakness, every Day recovered their Strength, when a Stop is put to the *Diarrhæa*, and that it did not follow, or was the Symptom of, another Disease. A *Diarrhæa*, that is the Symptom of some other Disease, subsists as the Effect of that Disease, and returns in Proportion to the first Disease receiving its Cure; for though a Medicine may be sufficient to put a Stop to the *Loosness*, and even to help the original Disease; yet so soon as this becomes worse, the *Loosness* returns at the same Time.

The *Diarrhæa*, that is more difficult to be cured than these that proceed from stimulating Causes, is that which proceeds from *Age*; and that the Constitution of the Sick is at that time worn out. It will be proper then to add a Case of this Kind, and, from thence, to proceed to more difficult Cases of a *Diarrhæa*.

HISTORY IV.

The Honourable *James Vernon Esq;* had been six Weeks ill of a *Diarrhæa*, under the Care of Sir *Richard Blackmore*, who not succeeding

succeeding in all that time, Mr. *Vernon* put himself under the Care of Sir *Samuel Garth*: but the *Diarrhœa* still continuing too powerful for his Administrations, and Mr. *Vernon* being extremely weak, I was advised with for him, *February* 27. He was cured the first of *March* by my Medicine. I ordered him an Infusion to strengthen his Blood, and thereby to prevent a Return of the *Diarrhœa*; which Method was so effectual, that his Constitution mended, and he has lived many Years in as good Health as a Man of his Age commonly does.

HISTORY V.

It has been shewn through the Beginning of this Book, that when a *Diarrhœa* is the Symptom of some other Disease, it is more difficult to be cured than the Greatness of the *Diarrhœa*. This is manifest in Experience, as we find in the two following Cases. The Honourable *Langham Booth* Esq; was prodigiously swelled with a *Dropsy*, and was the Charge of Sir *Samuel Garth*. He fell into a *Diarrhœa*, which Sir *Samuel* could not check. I was desired to see Mr. *Booth*, together with Sir *Samuel Garth*, *December* 25, 1712. His Stools were many, but with little Gripping, and without any great Quantity of *Slime*, *Gall*, or other Humours. I

found it very difficult to be cured the first Day, notwithstanding the Mildness of the Symptoms that attended this frequent purging. The 26th he took a large Dose of my *Electuary* about Noon, which was repeated at four of the Clock, and at Bed-time. He had one Stool at four that Afternoon, and one at eight; but then the *Diarrhæa* stopped; and Mr. *Booth* is alive at this time, and was afterwards cured of his *Dropsy*.

Mr. *Head*, a Grocer, who had a *Diarrhæa* following a *Phthisis*, or Consumption, was cured between the 6th of *October*, and the 10th of the same Month. It returned once or twice for a Day; and, at last, he kept free of his *Diarrhæa* for above six Months; when he died of the *Phthisis*, without ever being troubled again with the *Diarrhæa*.

But as the greatest and most sudden Changes are in *Fevers*, more than in any Disease; so the *Diarrhæa*, that follows them, is both the hardest to be cured, and is most liable to return. Hence in all *malignant Fevers* a *Diarrhæa* can hardly ever be cured by the Medicines, commonly administered for the Cure of a *Loosness*; they being very opposite to the Cure of the *Fever*, and neither the *Fever*, nor its pressing Symptom, admit of any Relief from these Remedies.

HISTORY

HISTORY VI.

Mrs. *Broun*, whose Husband commands one of his Majesty's Ships of the fourth Rate, with a distinguished Character, had been long ill of a *Diarrhœa*, under the Care of diverse Physicians; so many, and without any Benefit, that she gave her self up as incurable. The last was our worthy President, but he giving her a Dose of *Ipecacuanha*, and that working very violently, put her out of all Hopes of living. Her *Stools* were many, and without *Gripping*. She was feverish, and she made very little Water. She took my Medicine, made a little more diaphoretick, three Times a Day, for a Week, and recovered; but she continued weak several Months.

HISTORY VII.

Of any Kind of a *Diarrhœa* the watry has been always found the hardest to be cured, and still worse, when it is the Symptom of another Disease.

Mrs. *Goedart* was taken ill, in *August*, of a *Diarrhœa*: Her *Stools* were a clear Water, and she had a Stool almost every Hour. There was no *Gripping*, she was feverish, and made very little Water.

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The *Diarrhœa* (as we find in the former Edition of this Book) did not yield to purging Medicines, tho' the gentlest, and given to the best Advantage; neither were cordial and alexipharmack Medicines of any Use: So that on the fifteenth, she took a Vomit of *Carduus-Tea*, and afterwards a Dose of my Medicine for curing Fluxes; she took a second Dose in the Morning of the sixteenth, and thereby was cured of her *Diarrhœa*.

These Instances of the Cure of the several Species of a *Diarrhœa*, are sufficient to shew which of the Kinds are, in their own Nature, most incurable; and as the Difficulty in the Practice is the same we found formerly, when I investigated the *Nature*, and *Causes* of a *Diarrhœa*, the Distinctness of my Account is very manifest.

These Observations are not the hundredth Part of those I have made in *London*, nor the thousandth Part of the Experiences had of my Medicine at Sea. So that I do not draw them forth, as Proofs of the Goodness of my Medicine, but as an Illustration of the different Degrees of Curableness there is in one *Diarrhœa*, and another. Had I any other Design, the World would equally be surprized with the Greatness of the Cures, and the Boldness of an invidious Inquiry that was once made into the Success of my Medicine; which, as I had Men of great Honour for
my

my Judges, turned hugely to the Advantage and further Esteem of the Medicine. However it may not be disagreeable to hear of two Practices of two Surgeons, then in the Navy.

The first is a Letter from the Surgeon of the *Flamborough* at *Dublin*. The Surgeon, Mr. *Rivet*, pretended that the Ship's Company was very much afflicted with a *Diarrhoea*, which must have proved very fatal, but for my *Electuary*; and therefore desires a Supply of it to be sent him forthwith. I laid his Letter before the Lords of the Admiralty, and their worthy Secretary, Mr. *Burchett*, ordered him this Supply, which was sent him, which he received, and which was very profitable to him. For Mr. *Rivet* got above four hundred Pound for the Cures he did in *Dublin* by four Pounds of my *Electuary*.

The second is a Letter from the Surgeon of the *Revenge*, to Captain *Cleasby* who commanded that Ship. For after the malicious Inquiry, I lately hinted, the Lords of the Admiralty had ordered the Captains, after returning home, to give an account of the Success of my Medicine in their foreign Voyages. Among the rest of those Letters, is one from Mr. *Borthwick*, wherein he gives an account of the Men cured of Fluxes by the Medicine, and how suddenly they were cured. Then he adds an Observation he had made formerly in

Brazil. When, says he, I was at *Bahaja de Todos*, with Captain *Dampier*, in her Majesty's Ship the *Roebuck*, he desired me to visit one Mr. *Abraham Jones*, Merchant. When I saw him, he was lying a Bed so weak, that he was not able to help himself any Manner of Way.

He told me that he had an hundred Stools, and sixty Vomits, in forty eight Hours. His Pulse being very low, I gave him a little Cordial, and some of Doctor *Cockburn's* anti-dysenterick *Electuary*, and by the Use of the *Electuary*, he was so thoroughly cured in seven Days, that he was able to walk abroad, and was alive when the *Woolwich* was at *Brazil*. It is worth its Weight in Gold. The last part he, afterwards, told me he had reason to affirm, because he got forty times the Weight of, the Medicine for his Cure.

I might relate the great Efficacy of my Medicine for curing Fluxes in the *French Navy*. But I proceed.



C H A P. VIII.

Of a LIENTERY, and of a Coeliack Affection.



AVING, in the foregoing Inquiry into the Nature of a *Diarrhœa*, so fully discovered the Nature of a *Looseness*,

ness, and particularly that of a *Diarrhœa*, I hope any other Species of a *Loosness*, hereafter falling under our Consideration, will be more easily explained, by what has been said in the mentioned Inquiry. The *Lientery*, more especially, has been considered as a *Symptom* of the *Diarrhœa*; and, without doubt, that Account will become more manifest, after the particular Inquiry I am about to make of that Disease.

The *Lientery*, and *Cæliack* (or Stomach) *Affection*, are Diseases wherein our Aliment has undergone some Change in the Stomach, or none at all. If our *Food* passes out of the *Stomach* without any Degree of Concoction, *Hippocrates* ^a calls the Disease a *Lientery*. *Cornelius Celsus* and ^b *Galen* call it a *Palsy*; and some *Latin* Authors, a *Slipperiness* of the *Guts*. But if our *Aliment* has undergone any Degrees of Concoction, the Disease then is known by the *Cæliack*, or Stomach *Affection*; and the Sick, by *Cælius Aurelianus*, are called *Ventriculosi* & *Ventrosi*. *Pliny* calls them promiscuously the *Cæliack Affection*: ^c *Rabbi Moyses*, *The Disease of the Stomach*; as did almost every *Arabian* Physician. Some have called the *Lientery* and *Cæliack Affection* a *Flux* of the *Stomach*, or, a *Stomach-Flux*.

^a Lib. de Affect. pag. 536.

12. ^c Aphor.

^b vi. Aph. i. & iv. Aph.

Aretæus,

Aretæus, and many other Authors, have considered a *Lientery* as a Symptom that happens in the Course of a *Dysentery*. But *Galen*, and other very learned Authors, make this Difference between the *Lientery* and *Stomach-Flux*; that in the former, the *Food* is thrown out of the Body without any considerable Change being made upon it in the Stomach; and, in the last, the Food is more or less concocted, as I have already observed.

This is the constant Appearance of the *Lientery* and *Stomach-Flux*, manifest to the Observation of all ancient and modern Physicians, and was never questioned, till the *Geneva-Reformers* of that excellent practical Author, *Lazarus Riverius*, did it, with equal Disrespect to all Physicians, as Disregard to that learned Author; for it is not to be believed (say the *Geneva-Physicians*) whatever *Riverius* and the *Ancients* may alledge, that the Food can, absolutely speaking, be thrown out of the Body altogether unconcocted, since it is impossible (as they wisely argue) that it should pass through the Stomach and Intestins without being changed: But why? because of the Gall and pancreatick Juice that are dropping into the Duodenum, and which cannot fail to make some considerable Change on the Food. But all that this Argument proves, is, that the Reformers of *Riverius* were not Men practised in Physick; for the Food not only

only passes the *Stomach* and *Intestins* uncocted in the *Lienteria*, but in every violent *Diarrhœa*, as I have formerly shewn; as also when Men are very ill of a *Dysentery*, as is known to Physicians, and will hereafter be considered. The pretended Reformers, then, of the great *Riverius*, most unwisely find fault with a very notorious and obvious Fact, descending through every Age, without ever being contradicted, under the Observation of the most judicious Physicians in all those Times. But the precarious Reasoning of the Reformers of *Riverius* will speedily be shewn equally absurd, as it is precarious; altogether unfit to shake any, the slightest, Observation.

Their Error, about the *Cæliack Affection*, is no less a manifest Proof of the want of Experience, and Practice, in Physick, in the Reformers of *Riverius*, than was the former, when they corrected their learned Author in the fore-mentioned Cases of a *Lienteria*. Is there any Case more common than the State of the Chyle, when Men are ill of the *Jaundice*? And if the Chyle, and white Excrements, can pass pure in a Disease infinitely more common than the *Cæliack Affection* is, why should these Reformers of *Riverius* deny their Belief of the Chyle passing in its native Colours, without its being necessarily changed in this its Passage? But all
this

this false Reasoning proceeds, altogether, from the Disability of ancient Physicians of assigning the true Cause of this Disease; and the modern Physicians have pertinaciously followed their Steps, without making use of the modern Improvements, that were unknown to the sagacious, and learned, Physicians in former Times.

Our Curiosity will be raised to make further Inquiries, by rehearsing the modern Opinions about the Cause of this Disease, as they may be found among our latest Authors, and even among some of those who have made useful Discoveries in *Anatomy*; which Knowledge they have employed in such a Manner, as to qualify them to give us a clearer Light into the Nature of this Disease. Ancient Physicians, as I have already observed, imply in their Descriptions of a *Lienteria*, the great Weakness of the Stomach; upon which Account it can neither retain, nor digest the Food, that is sent into it.

Fernelius, and a great Number of Physicians that follow his Opinion, tell us, that a *Lienteria* is occasioned when the Stomach neither digests, nor retains the Food. Thus far they agree with their Ancestors, but the Description and Nature of a *Cæliack Affection* given by this Author, have been generally followed by every Author. ^a The Cæ-

^a Patholog. lib. vi. cap. x.

liack Affection, says *Fernelius*, is occasioned by the *lacteal Vessels* being obstructed, and that the Chyle, for that Reason, is unduly distributed.

^b *Ballonius* thinks that the *Mesentery*, and its *Glands*, being obstructed with gross and viscid Chyle, produces the *Cæliack Affection* more particularly; nay, that Tumours on these Parts are very commonly the Cause of this Disease.

That excellent Anatomist ^c *Conradus Peyerus* ascribes the quick and extraordinary Discharge of white Stools in the *Cæliack Affection* to the Glands of the Guts being looser, or to their being too close; and brings some Examples of morbid Dissections, in order to support his Opinion.

There are some Authors ^d, who have called in Obstructions of the *Liver*, *Spleen* and *Pancreas* to make their Account of the *Lienteria*, and *Cæliack Affection* more complete.

In order then to determine something positively, and to settle some Certainty in the various Opinions we find among all Authors, I will pursue the Method I have already taken with so great Success, and endeavour to find, by the *Diagnostick Signs*, the

^b Epidem. & Aff. cap. xvi.

^c De Gland. in.

^d Sylv. lib. i. test. Ufu

Nature and Cause of the Lientery and Cæliack Affection.

In the LIENTERIA, *Hippocrates* informs us, as I have lately observed, that the *Food is thrown off unmelted, unputrify'd, or unconcocted.* In the *Cæliack Affection* the *Food comes off under some Degrees of Concoction:* and ^a*Paulus Ægineta*, that in this last Kind of Slipperiness of the Guts, the *Food runs thro' most speedily; tho' the Crudity is so very great, that the Kind of Food may still be discerned.*

^b *Diocles* has left us this excellent Observation (little heeded by other Physicians) that *People are commonly afflicted with the LIENTERY and STOMACH-FLUX, soon after a Meal, and very rarely at any other time; which Evacuation never ceases while there remains any of that Meal in the Stomach and Intestins.* This Observation is so material, and of that Consequence, in explaining and distinguishing this Disease from a Symptom of the *Diarrhæa*, and of the *Dysentery*, that it is surprising, how this notable and distinguishing Symptom has been overseen by his Predecessors, and neglected by his Posterity, in Physick. But *Cornelius Celsus*, the *Latin Hippocrates*, gives us an Account of the *Cæliack Affection*, very different from what has been taken from all

^a Lib. iii. cap. iv.^b Curatio & Causa Passionis,

other Authors. ° The *Celiac Affection*, according to this elegant Author, is seated in the *Pylorus*, or Gate of the Stomach. In it the Stomach swells and is painful; the Belly is altogether bound, and does not so much as pass Wind. The extreme Parts of the Body are cold, and there is a Difficulty of breathing attends this Disease.

This Account of the *Diagnostick Signs* being premised, we must, in the next Place, discover how they are produced; for thereby we may be led into the *Nature and Cure* of the *Lientery* and *Celiac Affection*; the first whereof is hitherto unknown, and the last reputed far more difficult and various than that of a *Diarrhœa*: And from both these Defects flow all the various Opinions, and different Observations, that are to be met with in every Book of Physick.

But to begin with the *Lientery*, wherein the Food passes through the Sick without any Marks of Concoction; which Observation is explained without any great Difficulty, by recollecting what is already shewn in the *second* Chapter of this Book; for in it we are taught by what means our Aliment is naturally concocted in the Stomach, and how the same Aliment passes out of it, chiefly by acquiring a liquid Form. It is then

° Lib. iv. cap. xii.

very manifest, that no Property, nor Affection of the *Guts* is wanting, when a *Lientery* is produced; and as the Surface of an human Stomach is always smooth, there is no *Slipperiness* of that Part required, in order to our having a *Lientery*.

Now as the *Lientery* proceeds from some Error and Defect of concocting of the Stomach, we may with Certainty be informed of the Nature of a *Lientery*, by discovering this Error, or these Errors and Defects, in the *Stomach*, when the Food passes out of it *unconcocted*. We may likewise become apprized of our general Defect, if we recollect, again, what has been shewn, in the *third Chapter* of this Book, that every Looseness is produced by some *Causes* that *stimulate* the *Stomach* and *Intestins*, or that increase the Liquidity of those Things that are commonly contained in them: Upon which Conclusion, every Symptom and Cause of a *Diarrhæa* were formerly, with great Evidence, explained. And therefore it is very manifest, that every stimulating Substance in the Stomach will occasion the *Food* to be more or less readily thrown out of the Stomach, as is the Degree of the Stimulus, and the proper Disposition of the Stomach to be stimulated by these sharp Substances, lodged in it. Hence it is that we found the *Food* often carried out of the Stomach *unconcocted*,
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in the Time of a *Diarrhœa*; or when a *Lientery* attended a *Diarrhœa* as its Symptom. In that Case the Discharge of unconcocted Food might be at any Time, Night or Day, while any Part of the Food remained in the *Stomach*, or *Intestins*, because it followed the Condition and Course of the *Diarrhœa*. But, as *Diocles* has excellently well distinguished the *Lientery*, an essential Disease, from the *Lientery*, when it is a Symptom of a *Diarrhœa*; and has informed us, that the first begins soon after our Meal, and persists till the whole, or the greatest part of it is evacuated; we may hope to find among the Causes of this Disease, assigned by Authors, such as are sufficient to create this Stimulus, because this is the immediate Defect in the *Stomach*, and its Contents, sufficient to produce and occasion the *Lientery*.

On the other Hand, as the *Food* is never duly *concocted*, nor turned into *Chyle*, in any Part besides the *Stomach*; so it is evident, that the *Stomach* concurs very little, or nothing at all, in the *Cœliack Affection*, or when the *Chyle* goes through the Sick, and passes off in their *Stools*; but the Defect which occasions the *Cœliack Affection* must be found in the *Guts*, and not in the *Stomach*; which has finished its

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Work, when the Food has been turned into *Chyle*.

This Defect of the *Chyle* not passing out of the Guts by the Lacteal-Vessels, is very obvious from what has been said in *Chap. II.* for if the *Chyle* is not further diluted by the *pancreatick Juice*, the Gall, and other thin Liquors separated from the *velvet Coat*, and some *Glands* in the Guts, it is naturally too thick to pass into the *Blood* by the *Lacteals*; and must, therefore, be driven along the Guts, and out of them by their natural and peristaltick Motion; as has been further shewn in *Chap. III.* But if we suppose that the *Chyle* has acquired any Degree of Sharpness, while it is under this Ineptitude of being driven into the *lacteal Vessels*, this *Sharpness* will stimulate the Guts, and occasion a quicker Discharge of the *Chyle*; on both which Accounts of its Thickness and Sharpness, the *Chyle*, unmixed with other Liquors of the Guts, is driven out frequently, and in its own Colour; or, there is a *Cæliack Affection*.

The greatest Number of Physicians, notwithstanding the manifest Passage of the *Chyle* out of the Guts into the Blood, have followed the Opinion of ancient Physicians, who thought that the *Chyle* was barred from mixing with the Blood in the Guts by the *Mesaraicks*; and that by the Guts being
† full

full of *Scars* after a *Dysentery*, and other *Diseases*, which on that Account finding no Passage into the *Blood-Vessels*, was supposed to be driven out of the Body, and to constitute the *Cæliack Affection*. The Sufficiency of this alledged Cause will hereafter be examined. In the mean time, if the *Guts* were all of them full of *Scars*, (as they must needs be in the present Supposition) the Discharge of *Chyle* could not be quickly made, however its Colour might remain, which is contrary to the common Observation and Experience Physicians have of the Course of this Disease; for the *Guts* being *Callous*, with that great Number of *Scars*, could not be duly contracted, nor the *Chyle* protruded, as is necessary, to agree with Experience.

Franc. Deleboe Sylvius forsaking this common Opinion, is not more happy in giving us an Account of the *Cæliack Affection*; * for he calls this State and Condition of the *Chyle*, when it has not passed into the *Lacteals*, an *Icteric Loosness*, or *Faundice*; and afterwards, in some confused unintelligible Words, he constitutes a *Chylous Loosness*. But as the Stools are most commonly white, when a Man is ill of the *Faundice*; yet they are neither commonly

* Prax. lib. i. cap. xiii.

loose, nor do they happen under the Circumstances of a *Cæliack Affection* when they are loose, and are called either a *Jaundice*, or *Chylous Loosness*, in the Language of *Sylvius*. On the other Hand, here is a *Cæliack Affection* without the *Jaundice*; so that the *Jaundice* is neither the Principal, nor a Symptom of the former Disease; and therefore this Analogy of the learned *Deleboe Sylvius* is very defective and imperfect.

But however imperfect this Account of *Sylvius* now appears to be, and though it neither tends to give Physicians a better Notion of a *Cæliack Affection*, nor to suggest better and more natural Means of curing it; yet the Reformers of *Riverius* readily adopt it, to the Ruin of a Fact conveyed by their excellent Author, upon the Credit of all ancient Physicians, as well as confirmed to him upon his own Experience. *There is*, say the Reformers, *a third Species of this Distemper, which by no Means can be reduced to any of the former, (the Lien-tery or Cæliack Affection) yet may very properly be called a Chylous Diarrhoea. This happens when the Food has been duly concocted in the Stomach, and further perfected in the Duodenum, but is afterwards thrown off with the Stools, the Chyle not passing into the Lacteal Vessels, because they*
are

are in such Cases obstructed. Now let the Reformers of that excellent Practitioner, *Lazarus Riverius*, think this a Species distinct from the *Lientery* and *Cæliack Affection*, yet we see the Account they give of this new Species is the very same *Riverius* had given of the *Cæliack Affection*; and therefore this pretended new Species has much of Novelty, but nothing of Truth in it. The Reformers, after having copy'd *Sylvius*, say the same that I have now observed; for they add, that we reduce this last Species, and the other two, into one, because of the Likeness and Similitude of the Substances voided in both Cases, this new Species, it may be supposed, and that of the *Cæliack Affection*. This Contradiction does not hinder their making a fourth Species, in Imitation of *Sylvius*, tho' that is as useless as the third we have been considering, and shall, for that Reason, be left without any farther Examination.

This unaccountable branching out the various Symptoms of a Disease into so many Species of it, can never be to any good Purpose, and tends only to breeding Confusion. For Instance, this Division made by *Sylvius*, of a *chylous Diarrhœa*, was formerly considered by me purely as a Symptom of a *Diarrhœa*, when, in the impetuous Course of the Disease, the *Chyle*, and other

Contents of the *Guts*, were carry'd off in the common Torrent, and what required no particular Consideration to be had to this Symptom, in the Cure of the *Diarrhœa*. Whereas, were these Symptoms as many Species of the Disease whereof they are Symptoms, they must be produced by as many different Causes, which require as distinct Intentions of curing every Species, as there are supposed Species, and as they can be combined one with another. In this Case nothing but Confusion can arise. *Junckerus* is a notable Example, as well as a Register, of such numerous Divisions, who has no less than eleven different Species in his ^a Tables published from Dr. *Stahl's* Lectures, and may be called Dr. *Stahl's*, who likewise writes a Preface to them. Now as these different Species must make as many more as they can meet with one another, the Considerations arising from that Number are vastly various and perplexing; giving Occasion to the greatest Confusion. On the other Hand, we find the Nature of the Coeliack Passion left in the same State the Reformers found it in their Author, the Inepititude and Inability of the *Chyle* passing into the *Mesaraick Veins*, because of the universal Scars made in the *Guts* after the *Dy-*

sentery, and other *Diseases*. Thus have they mended, improved and reformed that excellent System of *Riverius*.

After all I have said, we find one of the undoubted Chiefs in Physick giving a very different Account of the *Lientery* from that I give with Consent of all other Authors. The great and elegant *Corn. Celsus* is so far from admitting any manner of *Looseness*, in the Case of a *Lientery*, that he tells us, People, in that Condition, are under great *Constipation*, and Costiveness in their Belly; an Account widely disagreeing from other Physicians, and which is one Reason, why some Physicians have alledged, that the great *Celsus* was more a painful Studier of the *Greek* Physick, more the *Latin Hippocrates* by his accurate Style, and following that Author, than from the Accuracy of his own Observation. But, without doubt, *Celsus* was a Person of Experience; for no Man can ever describe a Disease, and the different Circumstances of curing it, in the manner *Celsus* has done, without being a Person of great Judgment, with all necessary Experience. However, as this Difficulty will come more naturally to be reconciled, when the *Causes* of these Diseases are to be settled, I leave this Opinion of *Celsus* to that Place.

Having thus discovered the Nature of a *Lientery* and *Cæliack Affection* by their most essential and principal Symptoms, I proceed in the next Place, to account for, and explain, the other Symptoms that have been commonly esteemed equally principal with the former; and are, therefore, proper to be examined and explained.

The Diseases, the Subject of our Discourse, are attended with *Faintness*, *Paleness*, a *Tympanites* and the *Jaundice*. *Paulus Aegineta* says, that ^a the Food is soonest thrown off in a *Coeliack Affection*. There is a great *Heat* in the *Hypochondres*, and a great *Decay* of *Flesh*.

This Observation of *Aegineta* is now become a self-evident Truth, from every thing that has been hitherto said of any *Loosness*; for the Stools in the *Cæliack Affection* being vastly thinner than natural Stools, and still thinner than in the Case of a *Lientery*; in the *Cæliack Passion*, then, whatever may be the *peristaltick Force* of the *Guts*, the Food must be thrown off in Stools sooner, than it is when a Man is ill of a *Lientery*, as *Aegineta* observes; and that, because the Thinness it self of the Stools, renders them more ready and apt to be thrown out of the *Guts*, whatever be the

^a Lib. iii. cap. iv.

State of the *peristaltick* Motion of the *Guts*, whereby the *Stools* are expelled.

But, while the *Loosness* of a *Lientery* and *Celiac Affection* proceeds and subsists, Physicians have observed their Sick to complain of a very great *Heat* in the Region of the *Hypochondres*, a Symptom that is not taken notice of either in the *Diarrhœa*, or even in People ill of a *Dysentery*. I know that ancient Physicians comprehended in the Region of the *Hypochondres* all that Space that is between the *Cartilago ensiformis* and *Ileum*, or all the lower Belly, and whatever is contained in its Cavity. If then we consider the present unnatural Discharge of our Food, and the real Fermentation we find there is in the *Stools* that are voided, we may readily conceive this extraordinary *Heat* in the *Hypochondres*: But as all these Circumstances of Excrements are truly no more than what we found in the Case of a *Diarrhœa*, where no such *Heat* was discovered, there must either be some other Cause of this *Heat*, that can it self produce it, or that concurs, at least, in producing this extraordinary Effect.

This Cause, I think, may be found by what has been said more particularly concerning the Nature of the *Celiac Affection*. For as the *Chyle* is chiefly voided in *Stools*, by its not being diluted with the

the Liquors, it should meet with, in the Guts; so, on whatever Account these Liquors are not secreted, (whether that be any Unfitness in the Blood, or any Defects in the Glands) there is an Inflammation of the Guts, that necessarily attends these Defects, and commonly a greater *Heat* without any *Inflammation*. And therefore, the *Heat* of the *Hypochondres* being augmented, an essential Circumstance of the *Cæliack Passion*, it is manifest, why the Heat of the *Hypochondres* becomes sensible and grievous in the *Loosness* of a *Lientery*, and *Cæliack Affection*.

That after this undue Concoction in the Stomach, and this unnatural Evacuation that is made when the Food is more dully concocted, there should be a great Decay of the Flesh of the Sick of a *Lientery* or *Cæliack Affection*, is not to be wondred. For the Purpose and Design of Food is to supply the necessary Wasting and Decay of the Blood. If then the Blood goes on in a decaying State, greater than the Recruits that are sent into it, this Decay must become very sensible: But the Decay of Blood is the Decay of Flesh, because the Quantity of *Flesh* is proportionable to the Quantity of *Blood* in the *Blood-Vessels* of every *Muscle*; and the Decay of Blood becoming very sensible, and that because the Food (the Recruiter of
of

of Blood) is carryed out of the Body in a *Lientery* and *Cæliack Affection*, so must the Decay of Flesh be. And therefore in a *Lientery* and *Cæliack Affection*, there is a great Loss and Decay of Flesh.

It is a Consequence of this great Decay of *Blood*, and of its being unduly recruited by the Food (which is carried off another Way) that People ill of a *Lientery* and *Cæliack Affection* are *faint*. For *Faintness* is a Decay of Blood, or of its Spirits, to that Degree, that the *Heart* can hardly be contracted; in-
somuch that the Fears, and a Feeling of immediate *Death*, affect the sick Persons, who are often relieved with any spirituous Draught, or Medicine, which proves a Supply to the great natural Want, for some Time, and prevents the falling down of the Sick, and their *fainting*.

The Quantity of Blood, and of its Spirits, being vastly lessened, in time of the *Lientery* and *Cæliack Affection*, the Strength of a Person is not only impaired, even to fainting, but his Colour is *pale*; because the Colour of any Person is as the Quantity, and Fluidity of his Blood, the Thinness of the *Scarf-skin* being equal. Now the Quantity and Fluidity of the Blood being less than natural, the *Blood-Vessels* are not sufficiently filled, and that only with grosser Blood; but the *Blood-Vessels* being not dis-
tended

tended with Blood, there does not any thing shine through the *Scarf-skin* besides the dead Colour of the Vessels themselves, and the Person is *pale* to any Degree, even to the Colour of a *dead* Person, and that in Proportion to the Quantity and Thickness of Blood. But as much of this Paleness may be owing to the State of the Blood-Vessels of the *Scarf-skin* it self, all these Effects will be more sudden and obvious on that Account.

From the several Degrees of this Way of affecting proceed the *Bloatedness*, the *Wrinkles* and *Dirtiness* of the Belly and *Skin*, &c. mentioned by physical Authors as the Attendants of the *Lientery* and *Cæliack Affection*; but what I do not think necessary to search further into, because they are Symptoms not peculiar to these Diseases, and are common in *Consumptions*, and in many other Diseases, as well as in the *Lientery*.

To proceed then to the Consideration of other Symptoms that may more properly follow the *Lientery*, or the *Cæliack Affection*, we find a *Tympanites* among the first of that Number; though it would be impossible to deduce that Symptom from any Circumstance of the mentioned Diseases, especially, if we admit of the Account Authors give of a *Tympanites*, or of the *Cæliack Affection*: Because by their Account there does not appear to be any Relation between

tween the Diseases and their Symptom. But on the other Hand, as the Fact of a *Tympanites*, often succeeding a *Lientery* or a *Cæliack Affection*, seems to be constant, and related by Authors as a constant Fact; we must further inquire into the Possibility of this Fact, after the Discoveries I have made of the Nature of the *Lientery* and *Cæliack Affection*.

By a *Tympanites* Physicians understand that Kind of *Dropsy*, wherein the *Abdomen* is so stretched and distended, that it does not yield to any Compression, nor receive any Impression, and gives a Sound somewhat resembling the Sound of a *Drum*; from which analogous Distention, and giving this Kind of Sound, the Disease plainly takes it Name. Moreover, Physicians unanimously believe, that this Distention of the Body is made by the *Guts*, which they suppose to be blown up with *Air*. Now, as I lately asserted, it will be hard to shew, how this extraordinary Quantity of Air should be bred by a *Lientery* or the *Cæliack Affection*; and far more that this Air has a Power to blow up all the *Guts* and the *Peritonæum*, and *Muscles* of the *Abdomen*, which resist and oppose such an Inflation: But this Power of Air is still more suspected in the time of a *Loosness*, when the Air has so free a Vent by the *Anus*.

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And

And therefore, if we recollect what has been already shewn, about the Nature of the *Cæliack Affection* more particularly, we may find the Affinity there is between it and the *Inflammation*, and *Inflation* of the *Guts* in a *Tympanites*; and consequently, we may discover why a *Tympanites* often follows the *Cæliack Affection*.

We have lately discovered that the *Cæliack Affection* chiefly consists in this; that the Chyle is not mixt with the *Gall* and other Liquors in the *Guts*, as it should be naturally; and, on this Account, that it is unfit and incapable to pass into the *Lacteal Vessels*, but passes out by the *Anus*, the common Course of the Excrements. But by this great Deficiency of *Secretion* in the *Guts*, they are not only subject to be inflamed from the common Cause of this Defect of *Secretion*, but they are likewise inflamed for the want of *Mucus* that covers the great *Guts* especially, and are thereby stimulated by every sharp Liquor, or other sharp Substance, that passes along in them. Thus we see how the *Guts* are *inflamed*, in the Course and Continuance of the *Cæliack Passion*; and we may easily become apprized how they are *inflated* by the Means of this previous *Inflammation*. For when the *Guts* are inflamed to a considerable Degree, they lose their peristaltick Motion, which is their Power,

Power, whereby every thing contained in the *Guts*, is thrown out of them. Now as the peristaltick Force of the *Guts* is diminished and destroyed, by their being inflamed; so every thing that is in the way of distending the *Guts*, and can inflate them, cannot fail of having that Effect, and that respectively, as are the two contending Powers of *inflating*, and of the *Guts* contracting themselves by the peristaltick Contraction of their muscular Fibres. Air is the most common and inflating Substance in Nature, and every Body is sensible, that a great abundance of *Air* is always in the *Guts*, but more especially, when the *Food* is ill concocted. And therefore, in the Time of a *Cæliack Passion*, the *Guts* being at that time full of *Air*, emitted from the ill-concocted *Chyle*, and that they are then also *inflamed*, a *Tympanites* easily follows the *Cæliack Passion*. Moreover, if we consider how easily an inflamed Part communicates this Affection to the other contiguous Parts, we shall easily perceive how this *Tympanites* is favoured by the *Cæliack Affection*. The *Cawl*, as well as the *Muscles* of the Lower Belly, are wasted by the *Cæliack Affection* persisting, and the *Inflammation* of the *Guts* is easily communicated to the *Peritoneum*, which losing its elastick Power, is very easily pushed up and distended by the inflated *Intestines*;

tins ; and thereby the Lower Belly becomes tight, and gives some small Sound like a *Drum*, and actually forms the *Tympanites*.

This Account of the *Tympany*, and the Relation it has to the *Cæliack Affection*, is altogether so new, that many Physicians, unacquainted with the Symptoms of the *Cæliack Affection*, and of the *Tympany*, will find it difficult to be apprized of the full Notion and Explanation here given ; however evident and obvious it must appear to such as have considered the Nature of the *Cæliack Affection*, lately discovered. But this Explanation will become more undeniable, if we consider that the *Tympany*, very commonly, by the Observation of the best Physicians, follows habitual *Colicks*, which it can only do upon the Account of the great *Inflammation* of the *Guts*, that is well known to be very common in Cases of violent and repeated Fits of the *Colick*, and the *Inflation* of them by the Air contained in the *Guts*. And therefore as a *Tympany* very often follows habitual *Colicks*, and that because of the great Inflammation that is commonly of the *Guts*, in time of that Disease ; so we must easily be persuaded, that the *Tympany*, that succeeds the *Lientery* and *Cæliack Affection*, is produced by a like *Inflammation* and *Inflation* of the *Guts*.

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When we have considered this great *Inflammation* and *Inflation* of the *Guts*, and the Pressure they make on all the neighbouring Parts; the *Jaundice*, another Symptom of the *Lientery* and *Cæliack Affection*, becomes very manifest; and as this Symptom is a very common, and a very desperate Symptom in a *Tympany*, that follows habitual *Colicks*; so we may very naturally conclude, that it is owing both in *Colicks*, and in the *Cæliack Affection*, to the *Tympany* that is a Symptom of, and succeeds, those Diseases.

But to render this Pressure, made by the distended *Intestins* upon such neighbouring Parts that concur to make the *Jaundice*, more obvious; we must consider what Effect the *Guts* in this Circumstance may have on discharging the *Gall* into the *Guts*, or in hindring its Passage out of the *Gall Bladder*, or towards the *Guts*; for when the *Gall* is not discharged into the *Guts* by this their Inflation, it returns into the Blood, and flowing with it, gives the yellow Colour to the *Skin* and *Eyes*, which is the determining Symptom, of any Person being ill of a *Jaundice*, to Physicians. And therefore, as the *Jaundice* is a Disease, which is not the Symptom of the *Lientery* and *Cæliack Affection*, but of the *Tympany* their Symptom, and denotes only the

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great Length to which these Diseases have proceeded, when a Person in the *Lientery* and *Cæliack Affection* has likewise the *Jaundies*; I will very briefly shew how the *Jaundies* are formed by the Distention of the Guts in a tympanitical State.

In order to set this in its true Light, it is needless to be very particular in any Account of the *Situation* of the *Liver*, which is the Origin of the *Gall*, by having the *Gall* separated there out of the hepatick Artery, and conveyed from thence by proper excretory Canals to the *Bladder*, which is its *Reservatory*. We will only take a general View of the mentioned Parts, as well as of the common Channel of the *Gall* into the *Duodenum*; for that will sufficiently inform us of the forming the *Jaundice* in the present Case, as I proposed. The *Liver* is situated in, and fills, all the right Hypochondre, and runs over the right Part of the *Stomach*, even beyond the *Sternum*. The lower Side of the *Liver* is concave, and in one of its *Sinus's*, towards the left Side of it, are contained the right Side of the *Stomach*, together with the *Pylorous* and the Gut *Duodenum*; in another *Sinus* towards the Edge of the *Liver*, on its right Side, is the *Gall-Bladder*, from which proceeds the *common Duct*, or Canal of the *Gall*; which bending downwards is inserted obliquely in-

to

to the *Duodenum*, four or five Inches below the *Pylorus*. From which Account it plainly follows, that the Motion of the *Gall* into the *Duodenum*, is interrupted by the Inflation of that *Gut*, not only by its compressing the common Conveyer of the *Gall*, but also by changing its Direction where it is inserted into the *Duodenum*, and thereby the *Gall* is either not at all discharged, or that Discharge is greatly impeded, and that by the Distention of the *Duodenum*, and in proportion to the Duration, as well as the Degree, of that Distention, which was necessary to be shewn.

Moreover, the Distention of most of the *Guts*, more or less compresses the common Duct; but as the *Colon* makes the greatest Variety of Turnings and Windings of any other, so it is most liable to compress all the concave Part of the *Liver*, and hinder the free Passage of the *Gall* into the *Duodenum*. Besides, the *Colon* is sometimes tied to the *Gall-Bladder* it self, and must needs change the Situation of it, when the *Colon* is inflated: For the *Colon* leaving the *Cæcum* is joined with it to the right *Kidney*, and thereafter winds upward to the *Liver*, where being tied to the *Gall-Bladder*, as I have already observed, is dy'd with the Colour of the *Gall*; and therefore when the *Colon* is inflated, the common Channel of the *Gall* is compressed,

but the Situation of the *Gall-Bladder* it self is changed, and the Derivation of the *Gall* into the *Duodenum* is interrupted, and occasions the *Jaundice*, by flowing into the *Blood*; as I have already shewn.

However clearly this Phenomenon, or Symptom of the *Jaundice* in the *Cæliack Affection* is explained, yet it is very manifest, that it is a Symptom only of a Symptom of the primitive and essential Disease, which cannot ever be a common Attendant on the *Lientery* and *Cæliack Affection*. I must therefore observe, on this Occasion, the great Difficulty there is in collecting the genuine *Diagnostick* Signs of any Disease, which are absolutely necessary for discovering the *Nature* of Diseases, and in managing their *Cure*. We found great Obscurities of this Kind from false Symptoms enumerated by great Physicians in the *Diarrhæa*; but if the Symptoms of Symptoms of Diseases creep into the Number of *Diagnostick* Signs, this Obscurity may often occur, and be vastly enlarged; much to the rendering our Inquiries into the *Nature* of Diseases almost fruitless and impracticable.

Some of the Symptoms mentioned in the Beginning of this *Chapter*, and next in their Order to be explained, are of this Kind; for they do not flow directly, either from the *Lientery*, or from the *Cæliack Affection*,

Affection, and are omitted on that Account; yet they will not altogether be neglected, since they will naturally fall under our Consideration, when the *Prognosticks* of these Diseases are to be determined.

I proceed then, in the next Place, to examine, and to explain the *Causes* of the *Lientery* and *Cæliack Affection*, commonly produced and assigned by Physicians.



CHAP. IX.

The Causes of a Lientery and of a Cæliack Affection.

THE Causes assigned of a *Lientery* and of the *Cæliack Affection* are a *Loss of Appetite*, a long continued *Indigestion*, a *Pain at Stomach*, *purging* and *poisonous Medicines*, a *Diarrhœa*, a *Dysentery*, and *Ulcers* in the *Guts*.

Among these Causes are reckoned *cold* and *unseasonable Air*, Food that is *slippery* and *cold*, and the like, which are brought in this Case, as formerly when the *Causes* of the

Diarrhœa were assigned ; but what do not operate in the present Case.

The Loss of *Appetite* proceeds either from a want of that Liquor in the Stomach, that concurs to the *concocting* of the Food, or that it has undergone some Change from other Liquors conveyed, or discharged, into the *Stomach*; or else, that the mutual Friction of the inner Surface of the *Stomach* it self is interrupted, and impeded, by a Quantity of unconcocted Food that cannot be converted into Chyle. In the first Case, the Food remaining unconcocted, necessarily *corrupts*, and becomes sharp. Now the Sharpness and Acrimony of this unconcocted Aliment stimulates the *Stomach*, and makes it to contract with great Violence, and thereby the Food is thrown out of it. But we formerly discovered, that the Essence of a *Lientery* consisted in the Food passing out of a Man, without having undergone any great and sensible Change made on it; and as this change is naturally made in the Stomach, so the Food is forced out of the Stomach without this due Change made on it, because of the Stomach being stimulated by the sharp Parts of the Food; or by them is produced a *Lienteria*; and the Loss of *Appetite* is truly an antecedent Cause of this Sharpness, or a Mark, at least, of this ensuing *Indigestion*, and of the Sharpness that is made by it.

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But secondly, if the Change made on the Liquor of the *Stomach* by a Disease, or by any other Liquor conveyed into it, which destroys the Appetite, or the Desire of eating, is of that Nature as to favour the mentioned *Indigestion*, and this ensuing Sharpness; the voiding unconcocted Food will be a more speedy, or a more effectual Cause of a *Lientery*.

This unconcocted Food remaining in the Stomach must certainly hinder that Friction of its inner Surfaces upon one another, which some Physicians have reckoned a principal Mean of Concoction, as well as of exciting an Appetite. But, as I have shewn, unconcocted Food, that impedes this Friction, must necessarily become sharp, and thereby cause a *Lientery*; and this want of Appetite is a previous Step to this Corruption, which is the immediate Cause of the Disease.

Moreover, a long continued Course of *Indigestion* lays a new Foundation for the Defects of Indigestion in every subsequent Meal; and therefore *Cælius Aurelianus* very justly observes, that *Lienteria* ^a *generatur ex antecedenti Indigestione continuâ*, &c. It is on this Account that *Prosper Martianus*, in his excellent Notes on, and Explanations of, the Works of the great *Hip-*

^a Lib. iv. cap. iiii.

pocrates, affirms, that ^b the *Essence of a Lientery* does not consist in the Food being voided without any Change made upon it, because Hippocrates says, black and fetid Stools are voided. And therefore Martianus conjectures, that the *Essence of a Lientery* more particularly consists in this, that the Food is discharged without being concocted, for as much as some remains of the Food, as it was taken down, are to be seen in the Excrements. And Martianus, after relating the supposed Causes of the Concoction in the Stomach, adds immediately, That however the Food is thrown off unconcocted, and whatever may be the Cause of the Unconcoction, yet we must always deem it a *Lienteria*, when the Food is thrown off before it has changed its natural Form; and that because of its being corrupted, and not concocted.

From this Account it plainly follows, that the want of *Appetite* is not a Cause of a *Lienteria*, and that unconcocted Food is a *procatartick* Cause only, but that the *Sharpness* that ensues this want of Concoction is the immediate Cause of a *Lientery*, which has no Relation to, nor can concur in producing, the *Cæliack Affection*; tho' Physi-

^b Prædiction. Hipp. lib. ii. sect. ii. pag. 517.

cians have commonly been of another Opinion.

The next Cause that is supposed to produce the *Lientery* and the *Cæliack Affection* is a *Pain*, that is sometimes observed in the *Stomach* of those that are afflicted with these Diseases. But, as I have already observed, *Hippocrates*, and other good Authors, assure us, that the *Lientery* is never attended with Pain in that Part; and therefore the Cause does not require our Consideration, however proper and necessary it was for me to relate it, many Authors having assigned it as a Cause, and which I could not reasonably neglect.

It may sometimes happen, that the *Sharpness*, that is the true Cause of a *Lientery*, may give Pain to the *Stomach*; but then the Pain, in that Case, is not the Cause of a *Lientery*, but a very remote, and a very accidental Symptom only; which Symptoms are known to Physicians as *Συνεπιπαρα*. *Purging* and *poisonous* Medicines are likewise esteemed Causes of a *Lientery* and of the *Cæliack Affection*, and, on that Account, are now to be examined; that we may know how, and in what Manner, they produce any one, or both of these Diseases. It has been formerly shewn how *purging* Medicines may produce a *Diarrhæa*, and may become truly a Cause of it; and I hope there was then
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such an Account given of purging Medicines, as was not only satisfactory in explaining the Effect of purging Medicines in making a *Diarrhæa*, but likewise, that the Doctrine then discovered reflected some Light into the Nature of purging Medicines, which was not before known. We then found, that it was not so much the *Sharpness* and *Stimulus* of a purging Medicine, as another Effect and Property of it that produced a *Diarrhæa*; and at present, whatever Analogy may be believed to be between the Stimulus of a *Purge*, and that of corrupted Food, this will not fail to be the Cause of a *Lientery*, when the former can, by no Means, be any Sort of Cause of it whatsoever. For, supposing a *purging* Medicine of that Strength as will continue a *Loosness* for many Days, either directly before the purging Power of that Medicine is wasted, or by consequence, or by a *Super-purgation*; in either of these Cases, it could no more produce a *Lientery* or a *Cæliack Affection*, than a common *Diarrhæa* can do; or it could not produce any of these Diseases; as will manifestly be made appear, by considering this very Question in the Case of a *Diarrhæa*; which is likewise given for a Cause of the *Lientery* and *Cæliack Affection*; and which offers next to our Consideration.

A *Diarrhœa*, which is assigned for the Cause of a *Lientery*, or of a *Cæliack Affection*, must produce these Diseases while the *Diarrhœa* it self subsists; but the Course of a *Diarrhœa* widely differs from that of a *Lientery*; the first being the same *Night* and *Day*, after a Meal, or if the sick Person fasts; and the last only follows *eating* or *drinking*, whether that is in the *Night* or in the *Day*, and would never follow the Sick, if they did not eat nor drink. It is therefore manifest, that a *Diarrhœa* cannot possibly be the Cause of a *Lientery*, and far less of a *Cæliack Passion*. We found, formerly, that a *Lientery*, and that a *Cæliack Passion* were Symptoms of a *Diarrhœa*, or that uncocted Food, and concocted Food, or *Chyle*, were carried along in the common Current of a *Diarrhœa*, and thus were its *Symptoms*; so the Stimulus of unconcocted Food may create some Degree of a *Diarrhœa*, or that a *Diarrhœa* may be the Symptom of a *Lienteria*, but never a Cause of it.

Was it not for a *Lientery* producing some Degree of a *Diarrhœa*, after this Manner, the *Lientery* could not properly be reckoned a Species of a *Loosness*, but might very well subsist without loose Stools, as the great and elegant *Cornelius Celsus* has very justly observed; who, for that Reason, and that he
never

never had observed any *Loosness* in Company with a *Lientery*, does not allow that Disease to be ranked in the Number of a *Loosness*.

The *Dysentery* has a greater Appearance of being a Cause of the *Cæliack Passion*, if not of a *Lientery*, than the *Diarrhæa* possibly can claim, because the Stimulus, which is known by the griping, is far the greatest in the *Dysentery*; insomuch, that it may cause the Corrosion of the Blood-vessels of the Guts, and the Discharge of Blood that is always in the time of a *Dysentery*. But if the unconcocted Food, or the Food rendered Chyle, pass off with the Stools in time of a *Dysentery*, in that Case the *Lientery*, and *Cæliack Affection*, are the Symptoms of a *Dysentery* only; nor is the *Dysentery* the Cause of a *Lientery* and *Cæliack Affection*, as essential and original Diseases.

But if we suppose a Part of the Stimulus, that was the Cause of a *Dysentery*, remained after the voiding of Blood, and some other ill Symptoms, new cured; in that Case, the griping might still continue a *Diarrhæa*, or appear in the true Shape of a *Colick*, neither of which Diseases can possibly produce a *Lientery*, whatever we may suppose their Power to be in forming the *Cæliack Affection*, and that because of the Inflammation

flammation that is very common to *Colicks*, the *Dysentery*, and in the *Cæliack Affection*, as I have shewn, when I investigated the the Nature of that Disease. Yet if we consult Experience, we never find that the *Cæliack Affection* ever attends any of these mentioned Diseases. And therefore any Inflammation that is common in the *Cæliack Affection* is the Consequence only of the Causes which hinder the natural Secretions at the Glands of the Guts. We may therefore conclude, that a *Dysentery* is not a Cause of the *Lientery*, nor of the *Cæliack Affection*.

Physicians make the *Dysentery* a Cause of the *Lientery*, or rather of the *Cæliack Affection*, for other Reasons, and Considerations, than I have hitherto had any regard to. For, as many Physicians have asserted the Guts to be full of *Ulcers* in the time of a *Dysentery*, and that an Exulceration of the Guts was an essential Circumstance of that Disease; so in consequence of this their Opinion, they believed that the Guts must be full of *Scars* and *Cicatrices*, when any Person has been cured of a *Dysentery*, which Scars render the Guts *smooth*, and thus facilitate the Passage of the Food and Chyle out by the *Anus*, as well as impede the Passage of the Chyle into the *mesaraick Vessels*,
by

by the Stoppage made on their Orifice by these *Scars* and *Cicatrices*.

But this Kind of Argument was by many great Physicians rejected for being false, and by all suspected as being precarious; nay, some Physicians thought these *Scars* on the *Guts* involved an Impossibility, and that they contradicted the most common Experience; which therefore they thought could not be, or that they were not to be admitted as *Facts*, and far less as *Causes*.

Hippocrates, as will appear more particularly hereafter, had no Notion of *Ulcers* in the *Guts* being necessarily in the time of every *Dysentery*; and I will shew that the *Guts* are seldom found with *Ulcers* in those that die of that Disease. If *Ulcers* then are not essentially joined with a *Dysentery*, the *Scars* that are pretended to be made by them, and to which *Scars* the Cause of a *Cæliack Passion* are said to be owing, do not exist in that Case, neither a *Dysentery*, nor its consequential *Scars*, can any ways be a Cause of the *Cæliack Affection*. But if the Argument is inverted, and we suppose the *Scars* a Cause of a *Cæliack Affection*, and that this Disease could not otherwise be conquered than by bringing a Remedy against the *Scars*, its *immediate Cause*; it follows, that when a *Cæliack Passion* has been cured,
that

that then the *Scars* were removed, which is contrary to Experience; because we do not find any Remedy sufficient to remove any *Scar* on the most fleshy Part, and far less on Parts that are membranous. And therefore the Disease is supposed to be removed, without first removing its immediate Cause; which is a Contradiction, and is a plain Proof that these *Scars* are no Cause of a *Cæliack Affection*; and far less is the *Dysentery* a Cause, because of its pretended *Ulcers*, that are supposed to make these fictitious *Scars*; or a *Dysentery* is not a Cause of the *Lientery*, nor of the *Cæliack Affection*.

Ancient Physicians were well apprized of the great Bulk of Absurdities that were comprehended in this Supposition. * *Cal. Aurelianus* rightly considers, that every one of the *Guts* may be affected by the *Dysentery*, but it cannot be supposed, that every one of the *Guts* are affected with *Ulcers*, because a Man must die before all his Intestins are exulcerated; and therefore concludes, that this Notion is very absurd. The most excellent Physician, *Laz. Riverius*^b, pursues this Argument, and confesses, that the supposed *Scars* are not to be received for a Cause of the *Cæliack Affection*, because on this Supposition, all the *Guts* must needs be exulce-

* 4 de acut. passion.

^b Lib. x. cap. iv.

rated, and the *Cicatrices* formed upon these Ulcers must be sufficient to shut up (very near) all the *mesariack Vessels*, which he thinks ought not to be supposed, because it is impossible for a Man to live in such a State of ill Health. This Argument is the more urgent, if we consider that the *Scars* and *Cicatrices* must be so many, and so general, as to answer the Experience of excluding all, or the greatest Part of, the Chyle; which could not be if these *Scars* were few, and only on some of the *Guts*.

Another use was found for these *Cicatrices*, besides the precluding the Passage into the *mesaraick Vessels*, and that was their making that *Lubricity* and *Slipperiness* that has been supposed necessary, both in the Case of the *Lientery* and *Cæliack Affection*. I have already shewn the Fallacy of this Slipperiness *Physicians* are so very fond of, and which they think necessary in the Case of our present Diseases; as also, that it contributes very little in explaining the quick Passage of our Food, whether that is concocted, or not concocted; and ancient *Physicians* likewise suspected this Insufficiency, as I have shewn.

Galen^a, whose Opinion is followed in the *Guts* having *Ulcers*, when Men have a

^a In aph. Hipp. lib. vi. sect. i.

Dysentery, thinks something else necessary for producing a *Lientery*, besides the *Slipperiness*, so much assented to by the generality of Authors; and the Power that is in the *Stomach*, to retain and concoct the Food, is rather a *Faculty* in that part, than that it is owing to its *Asperity*, and *Roughness*; which is commonly supposed. So, then, the Reason why the Food passes so quickly out of the *Stomach*, he supposes, more to be owing to some Defect of this Faculty in the *Stomach*, than to any new Smoothness, or Slipperiness in that part. The truth of which general Expressions, we that have lived after the great Improvements in *Anatomy*, are fully apprized of; for we know what these Powers of the *Stomach* are, and what this its *Faculty* is, whereby the Food is retained; as also what *Change* and *Faculty* there is in the Food, that overcomes the Faculty and *Conatus* of the *Stomach* to retain it. And therefore a *Dysentery*, and all the Consequences of it, have no Means, Power, or Faculty, to produce the *Lientery*, or the *Cæliack Affection*; *b. e.* It is not, nor cannot, be a Cause of these Diseases.

It is very manifest, upon this Examination and Inquiry, that of all the Causes of a *Lientery*, assigned by Physicians, there is only one, that can any way produce that Disease, and its Symptoms; which Cause is the *Sharp-*
P *ness*

ness unconcocted Food acquires in the *Stomach*; whereby the *Stomach* is stimulated, and is preter-naturally contracted; and, by this Contraction, the *Food* is thrown out of the *Stomach*, before it has acquired a due Degree of Concoction.

It is likewise manifest, that Physicians have not, in all their Experience, discovered one Cause sufficient to produce the *Cæliack Affection* and its Symptoms. The pretended *Scars* and *Cicatrices*, made on the *Guts* by a *Dysentery*, were specious Causes, and seemed to account for the Resistance the *Chyle* might find in its Passage into the *Mesaraick Veins*, as Physicians sometimes spoke; but now these *Scars* are found to be impossible, and a greater Number of Facts, from Observation, are so far from being explained by this Supposition, that they manifestly contradict it.

And therefore, as the mentioned *Cicatrices* are the only Cause alledged for producing the *Cæliack Affection*; so they are plainly not the Cause of it. The Discovery made of the *Nature* of the *Cæliack Affection*, leads us into the immediate, and *antecedent Causes* of this Disease.

From all this account we may conclude, that either the *Lientery*, and *Cæliack Affection*, are very rare Diseases (as they truly are) or that Physicians have not duly distinguished
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ed between the *Lientery*, and *Cæliack Affection*, when they are the *essential* and *original* Disease; and when they are *Symptoms* only of a *Diarrhœa*, or of a *Dysentery*.

A Lientery, then, is the voiding of Food more or less unconcocted, and still retaining its natural Form, and that quickly after eating, and commonly in the Way of a Looseness, and that on account of that Sharpness and Acrimony the Food acquires in the Stomach.

As also; the *Cæliack Affection* is a Looseness, wherein, in some short time after eating, the Chyle is voided; and that because it is not diluted with the Liquors, that naturally flow into the Guts, and by the Sharpness it therein acquires.



C H A P. X.

*The Prognosticks of the Lientery and
Cœliack Affection.*

FORMERLY, when I explained the *Prognosticks* of a *Diarrhœa*, I affirmed, that the *Prognostick* a Physician made in any Disease, is his Expectation, he declares about the Curableness of the Sick, under certain and assigned Circumstances of the Sickness. As also; that this Expectation, can only be drawn from the *Nature* of the Disease, the *Quantity* and *Intenseness* of the Disease; which are compared with the Strength of the Sick, and the Powerfulness of the Remedies.

When we consider then, how little Physicians have hitherto discovered of the *Nature*, either of a *Lientery*, or of the *Cœliack Affection*; we cannot be surprized, that we find them giving a very imperfect, though a very fatal Account, of those Distempers; and consequently, that the *Prognosticks* of Physicians are expressed in very general terms, very improperly, and, often, not particularly relating to the Disease.

But

But as *Hippocrates* has anciently given us the Prognosticks of the Lientery, whom every Physician has implicitly followed; I will repeat what is said by that excellent Physician, and endeavour to explain what he has taught us; since the Method of my Work brings me, at present, to give the Prognosticks of the Lientery and Celiac Affection.

* These Lienteries, says *Hippocrates*, that are daily pouring forth, and last for a long Time, discharging always with Wind, or without it, afflicting the Sick Night and Day, much after the same Manner; and that which is voided is very crude, or is black, and light, and has an ill Smell: All these Kinds of a Lientery are ill, h. e. according to *Celsus*, the most dangerous; and (as *Celsus* expresses it) if there is a great Drought, and they do not make Water after drinking; because, at that Time, all the Liquor does not go down into the Bladder, but into the Guts: If there are Ulcers about the Mouth; if the Face is red, and abounds with Pimples of various Colours; if the Belly is in a Sort fermented (or, in the Language of *Celsus*, the Belly is swelled and puffed up) fat and wrinkly, and they have no Desire to eat.

* Lib. 2. prædict. Sect. 2. pag. 105.

The next Thing *Hippocrates* acquaints us with, is, ^a that *Lienteries* with a Difficulty of breathing, and a gnawing Pain in the Chest, end in a Consumption.

Hippocrates gives us some hopes of recovering the Sick, ^b when they come to have four Belchings, they had not before, after being long ill of a *Lientery*.

But as this last Prognostick is a Foundation, upon which one Method of curing a *Lientery* has been raised; we will leave the farther Consideration of it, till we can examine it in its proper Place; and I will only add, that as it is a Prognostick, it is grounded upon the Philosophy of the *Stomach* having acquired more Heat, and greater Vigour.

To return to the first Prognostick I have taken from the great *Hippocrates*; it must be confessed, that there will not any Thing be found in it, that is peculiar to the *Lienteria*, and on that account does not more particularly relate to that Disease, than it does to a *Diarrhœa*; for if we consider, the Mortality that follows commonly the mentioned Symptoms, as the continual purging, that lasts on the Sick a long Time; or that we are led into the Nature of the *Lagness*, by the Stools that are voided in time of it; all

^a Coact. pramot. 469.

^b Aph. 1. Sect. 6.

these more properly are Symptoms of a *Diarrhœa*, which have been already examined, even to shew the Way how those Symptoms proved mortal by their continuing; to which Place we may have recourse, if we would know the manner how the different Sorts of a *Diarrhœa* carry us off the Stage.

Physicians have taken up an Opinion against all Reason and common Experience, that a *Diarrhœa* is the most simple Species of a Loosness; as if there were less Variety in its Symptoms, and fewer Causes that produced it, than either the *Lientery*, or *Dysentery*: But the contrary is very manifest, from the particular Inquiry I have made into the *Diarrhœa* and *Lientery*, and will be fully as obvious in the Case of a *Dysentery*, when it is explained.

The Symptoms of *Drought*, and of the *small Quantity of Water* the Sick make, have been likewise accounted for among the Symptoms of the *Diarrhœa*. The Reason assigned by *Hippocrates*, may sometime be true; but that I have given, in accounting for this Defect of *Water* in a *Diarrhœa*, is the most general Cause, as well as the most natural. The remaining *Symptoms* are very far from being peculiarly the Effects of a *Lientery*, under any Circumstance of it, so that they do not require our Consideration at this Time.

What *Hippocrates* has observed of a *Lientery*, with an *Asthma*, tending to a Consumption, in the most general Sense, is equally true of every *Loosness*, and is not, for that Reason, any *Prognostick* about the Event of a *Lientery* more particularly: So that Authors have concluded well enough from those Predictions, that a *Lientery* brings a lingering *Death* through a *Dropsy*, or an *Atrophy*; and both by withdrawing the necessary Aliment from the whole Body.

But I cannot omit the Consequence drawn from this Prognostick of *Hippocrates*, by one of his best Commentators, *Prosper Martianus*. This learned Physician, well acquainted with the Doctrine of *Hippocrates*, concludes, that the *Essence* of a *Lientery* does not consist in the Food remaining in its first State, without any Change; since *Hippocrates* says, *black and fetid Stools are voided*; but he conjectures^a, that the *Essence* of a *Lientery* rather consists in a Corruption of the Food, whereby it becomes sharp, and excites Nature to expel it more quickly. Whether this Corruption proceeds from the Food not being digested, because of the great *Heat* of the *Stomach*, and that it abounds with Moisture, or the

^a Prædict. Hippocr. Lib. 2. Sect. 2. Edit. Rom. pag. 517.

immoderate *Heat* of the *Stomach* only, or from any other Cause before the Food acquires the Change that naturally furthers the Concoction: But however that happens, these Stools give it the right of being called a *Lientery*.

This Notion of the learned *Martianus* is very singular; but it would bring great Confusion into the *Diagnosticks* of most Diseases, if we did admit it; and in the present Case, no Man could distinguish between a *Diarrhœa* and a *Lientery*; nay, were there no distinctive Mark between the mentioned Diseases, besides this, a *Lientery* must be an imaginary Disease only, that could never affect Men, and did not require the Consideration of Physicians.

We find in all the *Prognosticks* of Physicians, there is not any thing said of the *Cœliack Affection*; though this and the *Lientery* are acknowledged to be two very different Diseases Physicians always treat of together, and at the same Time. Could we think the Cause, commonly assigned for producing the *Cœliack Affection* possible, the *Prognostick* of that Disease would become very easy, because *Scars* every where shutting up the *Mesaraick-Veins* (as these Physicians suppose) or the Mouths of the *Lacteal Vessels*, could never possibly be cured; and, in that Case, there should be one Expectation

on only ; and that is, that the *Cæliack Passion* is an incurable Disease ; which, though, is against Experience.

Physicians must acknowledge, that the Diseases under our Consideration have wholly baffled the most diligent Observation of the most inquisitive and sagacious Physicians. Did we not barely know that our *Food* was voided without any Change made on its outward Form, when Men have a *Lientery* ; and that the Food acquires, more or less, the Form of *Chyle*, when they are ill of a *Cæliack Affection*, we should not have any Place where to begin, and far less where to fix our Inquiries. *Physicians* did not know formerly, enough of the *Anatomy* of the *Guts*, nor of the Doctrine of Concoction ; both which were necessary to conduct their Observation, and to assist them in recording what was most likely to be the Causes of the mentioned Diseases. In later Times, *Physicians* have not duly applied their Knowledge of Concoction to their *Anatomical Discoveries* ; which is all that is wanting for a good Account of a *Lientery*, and of a *Cæliack Affection* ; as is evident from the Account I have given of these Diseases : Though I wish Observations might hereafter ascertain the *antecedent Causes* of this Disease, which is so very useful in forming

forming right Prognosticks, and which is much wanted, notwithstanding that I have determined the immediate Causes of the *Lientery* and *Cæliack Affection*.

I will add, in the mean time, a *Prognostick* or two, that flow more immediately from the Account I have given of the *Lientery* and *Cæliack Affection*.

The sooner any Meal is thrown off after it is taken down, and the less Change there is made on the Food, the *Lientery* is the more dangerous.

On the other hand, the greater the Concoction of the Food, the more it approaches to the Case of a *Diarrhœa*, the more easily it may be cured.

The nearer the Quantity of Chyle thrown out in the *Cæliack Passion* is to the Quantity of Aliment, the harder is that *Cæliack Affection* to be cured.

A *Lientery*, and a *Cæliack Affection*, being the *Symptoms* of a *Diarrhœa*, or of a *Dysentery*, are cured more easily, or with greater Difficulty, as are the Diseases upon which they depend.

And lastly, a *Tympany* succeeding a *Lientery*, or rather the *Cæliack Affection*, shews that *Cæliack Affection* is never, or hardly to be cured; especially, if with it are the *Faundice* or a *Consumption*; which *Symptoms*

toms render those Diseases absolutely incurable, by any Means hitherto known to Physicians.

Now as all these *Prognosticks* necessarily flow from the Doctrine of a *Lientery*, and *Cœliack-Affection*, formerly established; and that so manifestly, that a very ordinary Reader may make these Consequences, I will not pursue so plain and obvious a Subject, but will rather proceed to the Cures of these Diseases.



CHAP. XI.

The Cures of a Lientery and of a Cœliack Affection.

WHEN I related the different and various Ways there were of curing a *Diarrhœa*, I found every Thing was attempted for the Cure of it, that had ever been administred in the Cure of any other Disease: But my Complaint on this Occasion is altogether of another Nature; for there

there are so few Medicines recommended for the Cure of a *Lientery*, or of the *Cæliack Affection*, that we hardly find a Method of Curing, nor a Remedy for them, in the History of Physick. Here is the greatest Exception to an Observation of *Corn. Celsus*; who alledges, that a Disease is always the hardest to be cured, when we find many Methods, and many Medicines, recommended for its Cure. The reverse of this is our present Case; for here we ought to have a certain Method of Curing, because we are not oppressed with great Numbers of Medicines that are said to cure it.

The Maxims upon which the Cure of the *Lientery*, more especially is founded, are traditionally preserved from *Hippocrates*; but we find no particular and distinct Method for curing the *Cæliack Affection*; whether they thought it incurable, or that it admitted of the same Cures with the *Lientery*, I cannot determine.

^a *When four Belchings, says Hippocrates, that were not before, come upon a sick Person who has been long ill of a Lientery, as it happened to Demeyera, they are a very good Sign. Perhaps we may procure them by Art.*

^a Lib. 2. Epid. Sect. 2. Aph. 1. Sect. 6.

Vomiting,

Vomiting, especially in the Winter, is forbid by *Hippocrates*, otherwise than we find in the Cure of a *Diarrhœa*; for he declares,
^b that it is very ill for a Person ill of a *Lientery*, to take a *Vomit* in the Winter.

^c The Sick of a *Lientery* require curing, says *Hippocrates*, till the *Urine* bears some Proportion to what they drink, and till the Body feels (or is nourished with) the Food they take, and the Skin looks lively, and has put off its dirty Colour.

Now after relating these Maxims of curing the *Lientery*, brought down from that antient and great Physician; we must observe, that they are not Consequences drawn from the Course or Nature of that Disease, as Indications of curing should be; but rather some general Marks and Experiences *Hippocrates* has made on some Patients; which Signs, perhaps, do not belong to the Disease, as future Experience might show.

I find *Galen*, and learned Physicians since his Time, entertain very great Difficulties about the first, more particularly. *Hippocrates*, says *Galen*, when he comments on this Place, had Reason to say, in a *Lientery* of a long standing. Their Way of arguing, was, that there were sour Belchings in a *Lientery*, especially if it proceeded from a cold In-

^a Aph. 12. Sect. 6.

^c Lib. 2. prædict.



disposition

disposition with Humours; yet this Belching is never good, because People never recover their Health while it lasts: And therefore it must be only in a Lientery of a long standing, and that the Belching too was not before.

But by the Account we have of a *Lientery* from all Physicians, it is manifest, that the Food is thrown out of the Body, with few or no Marks of Concoction upon it. On the other hand, *Belching* up some of our Aliment in a liquid Form, is a Degree of Concoction, and consequently the *Lientery* is not so great when the Food is somewhat concocted, as when it has not undergone any Degree of Concoction: *Belching* then is a good Sign, especially when it did not attend the Disease, whatever be the Cause of Concoction.

Hippocrates however will give us a Reason for the Goodness of his Sign; and afterwards proposes how far we may imitate Nature in procuring *Belching*. The Cause of this Motion of *Belching* is good, because it shews us, that the natural *Heat*, which before made no change in our Meat, is become more powerful; so that it begins to change and concoct it.

Now though these *Belchings* are the Effects of a Degree of Concoction, which is so much wanted when Men have a *Lientery*;
but

but as this is at best a Mark, and a Sign only, but not a Cause of Concoction, it were to no Purpose to attempt the provoking of *Belching*: Nay, when our Concoction is best, and we are the most removed from a *Lientery*, we are the freest from all such unfavoury Gusts and Belching; so far are they from being useful to us.

This however teaches us by the by, how careful and diligent *Hippocrates* is in drawing practical Conclusions from every Observation; and the very Method *Hippocrates* would build on this Observation, or rather with great Modesty suggests, is a common Error Men fall into in observing it, *viz.* mistaking an *Effect* for its *Cause*. Were Men as careful as we find *Hippocrates*, and did they try their Suspicions by future Observations, such Errors would be quickly detected; which Errors, through a Neglect of Observation, pass down as *Truths* upon a pretended Authority of the great Physician. The Paralogism I formerly detected of curing a *Diarrhæa* by *Diuretick* Medicines, is of the same Nature, but infinitely better founded; so well, that it might still be presumed, that a *Diarrhæa* might be cured by the mentioned Medicines, if the Observation of *Hippocrates* was not unquestionably explained, upon the most obvious Principles of *Anatomy*, and of the *Statick* Physick.

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Hippo-

Hippocrates, we find only mentions this Observation of *four Belchings*, and proposes to our Consideration, whether it is of that Use and Consequence, as artificially to imitate what Nature seems to hint; yet, without any further and proper Inquiry, some Physicians have built the Necessity of practising upon this hint of an Observation; at the same time we no where find any Medicines that answer their Indications.

The next Observation is about *Vomiting*, for curing a *Lientery*. I have formerly accounted for the Experience of *Hippocrates* in curing a *Diarrhœa* by vomiting Medicines, he so justly commends: Besides, as that excellent Physician found that Vomiting was not safe in every *Diarrhœa*, so I have determined the Cases and Circumstances of a *Diarrhœa*, when *Vomits* are useful, and when they are hurtful; *h. e.* I have fixed and established the Use of Vomits to their proper Circumstances of the Disease. Now however useful vomiting Medicines are esteemed by *Hippocrates* in a *Diarrhœa*, yet he dares not recommend them in a *Lientery*; for he tells us expressly, that it is dangerous for the Sick of a *Lientery* to take a Vomit in the Winter.

The Experience of *vomiting Medicines* *Hippocrates* has made in the two mentioned Diseases, is widely different: In one, a Vo-

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mit

mit is generally the best of Administrations; in the other, it is dangerous and ineffectual; a very notable Observation, and ought never to be forgot by Physicians, and with it the great Candor of the great *Hippocrates*. He confesses the ill Success of some of his best Medicines, while ignorant Physicians never pretend to find any cross Success in their Practice.

We do not find this Practice, by *Vomits*, has any relation to the Accounts given by Physicians of the *Lientery*; but that *Hippocrates* probably administered them analogically, being encouraged therein by the Success he had formerly in curing a *Diarrhœa*; and therefore gave them in the *Lientery*, another Species of a *Loosness*. But this ill Success from a *Vomit*, in Cases of a *Lientery*, may be accounted for by what I have shewn of the Nature of a *Lientery*, and of its Causes I have hinted: Besides, there is great Difficulty and Trouble in bringing up indigested Aliment by a vomiting Medicine, if there was no Danger attended its Operation.

The Danger of vomiting Medicines in the Cure of a *Lientery* is manifest, if *Thrushes*, a *Phlegmon*, or *Ulcers* in the *Stomach*, any Ways conduce to, or are Concomitants in a *Lientery*. And therefore this Experiment of *Hippocrates* is manifestly dangerous; and Vomiting is always to be avoided in Cases
of

of a *Lientery*, however useful they sometimes are in the Cure of a *Diarrhœa*: Here then we are taught what to avoid, but nothing what is to be done for curing the *Lientery*.

Why Vomiting is more hurtful in Winter particularly, may not be so very obvious; unless it is, that all the mentioned Symptoms are more violent in Summer, than in Winter, more especially in hot Countries. It is very certain, that vomiting Medicines operate more powerfully, or that they produce like Effects in a hot Country, to what they do in a cold one, in a smaller Dose; upon both which Accounts vomiting Medicines may be pernicious in Cases of a *Lientery*.

The last Maxim, I have taken from *Hippocrates*, regards rather the Time the Sick are to be treated by Medicines, than instructs us in the Kinds of Medicines that are most useful for curing a *Lientery*. The Sick of a *Lientery* require a Cure, till their Urine bears some Proportion to what they drink, and till their Skin puts off its dirty Colour: The notable Disproportion of the Urine, to the Quantity the Sick drink, and the Dryness and Dirtiness of their Skin, are two as obvious Symptoms of that Disease, as we find about the Sick; and therefore, while these Symptoms remain, the *Lientery* likewise remains

Q 2 uncured;

uncured: On the other hand, when these Symptoms disappear and vanish, there is no further Occasion for Medicines: Thus appears the Truth of this Rule of *Hippocrates*; though we are neither instructed by it, nor by any of the former Observations, of the Means of curing the *Lientery*.

Very many Authors have infer'd the Necessity of *diuretick* Medicines, for provoking a Quantity of Water, as *Hippocrates* thought proper for the Cure of a *Diarrhœa*; but however useful he might think it to provoke a Quantity of Water in this Case, yet he does not in the least vouch for a *diuretick* Medicine in the Cure of a *Lientery*: On the contrary, *Hippocrates* is of Opinion, that the Drink does not descend into the Bladder (as he speaks) in time of the *Lientery*; which he assigns for the Cause of the deficient Quantity of Urine and Water.

It is now very plain, that we cannot deduce any Method of curing a *Lientery* from these Observations. Indeed Physicians either had no Method for curing this Disease, and far less the *Celiac Affection*, (which is not so much as mentioned among the Maxims of curing) or else they thought that those Diseases admitted of the like Method of cure with a *Diarrhœa*, though these Diseases are as opposite in their Nature and Symptoms, as any two Diseases whatsoever. What can

can the Medicines recommended for curing a *Diarrhœa*, do towards the Cure of the greatest *Indigestion*, or for obtaining a better *Secretion* of the Liquors that flow into the Guts?

We must now therefore conclude, that either a *Lientery*, and a *Cæliack Affection*, are very rare Diseases, (as they certainly are) and were never cured by the Medicines that cure a *Diarrhœa*; or that Physicians have only cured them when they were Symptoms of, and followed, a *Diarrhœa*, or a *Dysentery*.

This Observation is so true, that we may find the pretended Reformers of *Riverius* avowing it publickly. They tell us in their Remarks on that Place, that what is wanting for the Cure of the *Lienterick* and *Cæliack Flux*, is sufficiently provided for by *Riverius* their Author; as also by what has been said concerning a *Diarrhœa*; yet no where is *Riverius* more defective, and no where they less officious: And both upon the Account of the great Difficulties that occurred to them in the Cure of the *Lientery*, and *Cæliack Affection*. And it is evident, that the Reformers of *Riverius* had no better Notion of a *Lientery*, and knew no better Means of curing it, than did their antient Physician, though they lived after great Discoveries have been made in *Anatomy*, and great Improvements in the *animal Oeconomy*.

But that I may mark out some general Method for curing the Diseases I have investigated; it is, in the first place, very certain, that there is not any particular Regard wanting, when they are the Symptoms and Followers of a *Diarrhœa*, or of a *Dysentery*; for there are some Parcels of indigested Food, or even when it is better concocted, and become Chyle, to be found among the Stools in a *Diarrhœa*, or in a *Dysentery*; it is certain, that the *Chyle* and Food, in that Case, are only carried off in the common Current of the other Diseases, and that there is no Discharge either of unconcocted Food, or of Chyle, after those Diseases are cured; and therefore when a *Lientery*, or the *Celiac Affection*, are Symptoms of a *Diarrhœa* more especially, or of a *Dysentery*, they cure a course, or are not to be perceived, the *Diarrhœa* or *Dysentery* being cured.

But 3^{dly}, as a *Lientery* proceeds altogether from the *Stomach* being stimulated, either by some Defect of the Liquors commonly secreted in it, or by a Sharpness the Food acquires in the *Stomach*; the *Indications* for curing a *Lientery* plainly flow from the Nature of a *Lientery*: On the other hand, the Chyle not being duly brought to its natural Thinness, that is requisite for its passing into the *Lacteals*; or that it is not duly diluted by the *Gall*, *pancreatick Juice*, or the other
watry

watry Liquors it is commonly mixed with in the *small Guts*; in either of these Cases the *Chyle* is thrown out of the Body, in the *Cæliack Affection*, as has been evidently shewn; and the *Indication* for curing a *Cæliack Affection*, is to render the Concoction more perfect, or to procure a more natural Discharge of the *Liquors* of the *Guts*, both which are very practicable; whereas the *Indication* taken from the Cause of a *Cæliack Affection* could never be satisfied, and in their Notion of the Disease, it did never admit of a Cure; and yet they tell us of their curing the Disease, but by Means altogether insufficient.

And now we may observe, that the Methods of curing a *Diarrhœa* by no Means answer the true Design of curing the *Lientery*, or the *Cæliack Affection*, as Physicians vainly imagined, and as every Body has experienced, who have had an Opportunity of practising in these Diseases, when they are essential and original Diseases, and not *Symptoms* of other Diseases.

From this View of the *Indications* for curing a *Lientery* and *Cæliack Affection*, it is obvious, how we may answer these *Indications*; and from whence we may borrow Medicines proper to put our Intentions into Practice. And therefore I will proceed, as I formerly did in the Cure of a *Diarrhœa*, to

relate some of the most effectual Medicines Authors have experienced in the Cure of the *Lientery* and *Cæliack Affection*; which an understanding Physician may properly apply by the help of the Account I have given of these Diseases.

Purging Medicines have been much commended for curing a *Lientery*.

This Form has been often used.

℞ *Radic. Cichor.* ʒj. *coq. in f. q. Aq. ad*
ʒvj. Sub finem Coctionis adde Comar.
Absynth. pug. 1. bulliant, & fervida
versentur super rad. Rhabarbari el. ʒj.
debite infusis exprimatur Colatura; cui
adde Syr. Menthe ʒss. F. Potio purgans
cum regimine propinanda.

Sennertus says, that *Rhubarb steep'd in Rose-Water* is a powerful Remedy for a *Lientery*.

The following purging Powder is well esteemed among Physicians.

℞ *Pulveris Radic. Jalap. Rhei el. ā. ʒss.*
Nuc. moschatæ tostæ ʒj. m. f. Pulver. dos.
ij, quarum dos in alterno manè capiat.

To this purpose many Physicians have purged their Patients with this Powder.

℞ *Radic. Rhab. ʒj. Mercur. dulc. gr. xlv.*
 † *Resinæ*

a LIENTERY, &c. 233

*Resinæ Scammonii gr. xxxvj. Mastich.
3ß. Croci mart. gr. xiv. Nuc. moschat.
iß. tostam. M. F. pulvis. Hujus 3j. ad
3ß. exhibeatur unicâ vice.*

*Galen commends these Lozenges of Be-
ritius.*

*℞ Nardi, Croci, utriusque 3ij. Myrrhæ,
Succi Hypocistidis, Aloes, Opii, Traga-
canthæ, Licii indici, Galle, Anisi, A-
caciæ, Piperis, Rhupontici singulorum
3j. Tragacantham in vino macerato, &
reliqua trita misceto; Pastillosque unius
drachmæ formato, atque ipsos è vino
dato.*

*Constantinus Africanus commends this
Powder of John Damascen.*

*℞ Mastichis, Cubebæ, Cariophylli a. 3v.
Ligni Aloes puri 3xx. Galle 3ß. Sac-
chari 3xl. F. pulvis, dentur ad bibe-
ndum 3iij. cum odoriferis Syrupis.*

*Petrus Forestus highly commends a Pow-
der of Hens-Gizzards, drank by a Person
that is ill of a Celiack Affection. He like-
wise recommends the following Electuary,
which he had often used in a Lientery, and
which Amatus Lusitanus, and Lazarus Ri-
verius*

verius have likewise very much commended; but I will transcribe it from the first Prescriber, *Forestus*.

℞ *Sacchari Rosarum* (they *Conservæ*) ʒvj.
Theriace optimæ ʒvj. *Myræ Cydonio-*
rum q. s. f. Opiata, de quâ sumat ʒ℞.
manè.

In another of his Observations, he says, he cured a Person who was desperately ill of a *Lientery* with the *Tolk* of an *Egg*, on which was the Powder of one *Nutmeg*; which *Egg* and Powder were afterwards roasted on a hot *Tile* or *Brick*.

Felix Platerus prescribes this Powder.

℞ *Nucis moschatæ assæ* ʒij. *Corallii* ʒij.
Cariophyllorum tostorum, seminis Cori-
andri ppti ā. ʒj. Da cum Vino, vel
addatur Saccharum rosaceum. Fiat Condi-
tum, vel, ex Carne Cydoniorum, Electu-
arium.

Lucas Tozzi has a notable Observation of a Person ill of a *Lientery*, whom he saw cured with a salt *Herring* eat with *Vinegar*, though the sick Person was miserably afflicted with the Disease. *Tulpius* has several Observations of the good Effects of *pickled Her-*
rings,

rings, in Diseases of the Stomach, and for other Diseases.

Besides the *Medicines* I have copied from Authors, which they have ordered to be taken inwardly for curing a *Lientery*; they recommend *Ointments*, *Plaisters*, *Poultesses*, &c. to be outwardly applied.

Platerus has this Plaister.

℞ *Mastichis* ℥ij. *Thuris* ℥j. *M.* He likewise advises us to a Plaister of *Storax*. The *Emplastrum Diaphæniconis Mesuæ*; or *de Crustâ panis Montagnanæ*.

Lazarus Riverius uses the following *Bags*.

℞ *Radic. Bistort. Tormentill. Cortic. Citri* sicc. ā. ℥ij. *Folior. Menth. Plantagin. Absynth. pontici* ā. *M. j. Nuc. moschat. Cariophyllor. Cinnamomi* ā. ℥iiij. *Rosar. rubrar. pug. iv.* contundantur & inciduntur, ut artis est, eisque impleantur duo *Sacculi interpuncti*, qui macerentur in *aquis partibus Aquæ ferratæ, & Vini rubri adstringentis*. Applicentur *regioni ventriculi calidi & per vices*.

Benedictus Victor Faventinus Empyricus extols this *Ointment* from his own Experience.

℞ *Ol.*

℞ Ol. Castor. Lilior. albor. Rut. Cheiri :
 ℥iij. Succ. Artemis. ℥iv. Aquæ ardentis
 ℥vj. bulliant ad aquæ consumptionem,
 tunc adde Nigellæ, Mastich. Cardamom.
 Galang. ā. ʒiʒ. Piper. Cariophyllor.
 Nuc. moschatæ Xyloalo. ā. ʒj. pulve-
 risentur, & iterum parumper bulliant
 cum modico Cerae. F. Unguentum, quo
 locus dolens ungatur, & lana succida te-
 pide superponatur. Ex isto Unguento vi-
 debis mirabilem effectum.

Thus having given a reasonable Number of the best Prescriptions for the Cure of a *Lientery*, and a great Store may be found among them I have mentioned, as well as among other Authors; I proceed to give some Examples in a Case or two that have occur'd to me in my Practice.

OBSERVATION I.

Mr. *Symcock* was long ill with a Pain in his *Stomach*, and with going to Stool. He went five or six times in a Day, and was never easy after *eating*, till he had voided his Food in loose Stools, and the Food unconcocted. He was dry; made but little Water, and that was of a high Colour.

As

As his Pulse was very great, I ordered him to lose eight Ounces of *Blood*, and he drunk this purging Draught next Morning.

℞ *Radic. Rhabarbari* ℥j. *Rosar. Santal. rub. Cinnamomi acut.* ā. ʒj. *Infundantur clausa & calida per noctem in Decocti Tamarindor.* ʒvj. *Colaturæ, per expressionem factæ, add. Syr. de Cichor. cum Rheo* ʒß. *Sp. Lavendulæ compositi gutt.* xii. *F. Potio manè cum regimine propinanda.*

When he did not take any purging Medicine, he drank *white Drink*, wherein were boiled *Galangal* and *Tormentil* Roots: He took this *Bolus* Night and Morning.

℞ *Pulver. Ari compositi* ʒj. *Extr. Gentian.* q. s. *m. f. Bolus.*

In the Day time Mr. Symcock took of *Mynsicht's Stomach Drops*. These he took for some Time; but as he was not relieved by them, I ordered the following *Electuary* and *Tincture*.

℞ *Conserv. Rosar. antiq.* ʒj. *Theriac. Androm.* ʒj. *Conserv. Prunel. Sylvest. div.* M. F. *Electuar. Cap. Nucis moschatæ majoris*

*majoris magnitudinem bis in die, supra-
bibendo Tinctura cochlear. iv.*

℞ *Radic. Helen. Raphani rustic. ā ʒʒ. Fo-
lior. Absynth. Mʒ. Ligni Alo. Cort.
Citri. Semin Coriand. ā. ʒiij. præpar. f.
a. & infund. 24 horis in vini albi mero-
rioris ʒiij. coletur qualibet dosis usus
tempore.*

Mr. Symcock quickly found the good Effects of this Medicine, and he perfectly recovered his Health in three Weeks, or a Month, by the Means of these Medicines.

OBSERVATION II.

Mr. Anderton was taken much after the same manner in 1711: He followed such a Method as is mentioned in the preceding Case; but as he did not find so speedy Relief thereby as Mr. Symcock did, I ordered him the following Powder. He took a Dose of it every third Day, and recovered.

℞ *Rad. Rhabarb. el. ʒj. Mercur. d. gr. xv.
Resin. Scammon. Jalap. ā. gr. xij. Ma-
stich. gr. x. Croci Mart. gr. v. Nuc. Mos-
chat. dimidium tostum. Pulveris hujus
ʒj. accepit unicâ vice.*

OBSER-

OBSERVATION III.

Mrs. Skinner, a very old *Lady*, was taken ill of a *Caliack Affection* in 1703. She had nine or ten Stools every Day, which were as white as Cow's *Milk*: The Stools were without *Gripping*: She was not very dry: Her Water was of a Colour higher than natural.

I prescribed her some Things without any Benefit; and as she was some Years before cured of a *Diarrhæa* by my Medicine, so she would either have that, or she would not take any other Medicines: Wherefore, complying with her Desire, I ordered the Clyster I often do in Cases of other Fluxes, and, after it came off, she took a Dose of my Medicine; She took a second Dose at Bed-time, and a third next Morning.

Next Day I found her free from her Purg-
ing, and had only one natural Stool in that Day. She took a Dose every Night at Bed-time, for three Nights more, and was never after troubled with any kind of Loosness.



CHAP. XII.

Of a Dysentery, or Bloody Flux.

S I am about to inquire into the *Nature* of a *Dysentery*, and the most proper Methods of *curing* it, I find my self engaged in some Difficulties about the *Name* of a *Dysentery*; which Difficulties did not occur in the Diseases I have already examined. For whatever may be the Importance in giving a proper Name to any Disease; yet, if the Names given to Diseases have not an express and positive Sense and Meaning, it is unavoidable to fall into Mistakes and Errors, that may have very fatal Consequences attending them. It is not easy to discover why a *Bloody Flux* bears the Name of a *Dysentery*, though its Species are very properly represented.

Physicians have not followed any of the Rules observed among them, in affixing the Name of a *Dysentery* to a certain Number of *Symptoms* represented by that Name; and though it may not prove a fatal Error, if the Name of a Disease neither imports the *Place*, *Symptom*, or *Nature* of it; yet plain Language is necessary, lest some Confusion may arise, by creating false Representations between

tween one Physician and another, which may give a Handle to false and hurtful Practices, that arise from the wrong representing a Disease; and therefore, that it may not be doubtful, what I mean by a *Dysentery*, I will endeavour briefly to fix the Name among Physicians.

Dysentery, then, being the most ancient Word, has been continued always among Physicians, but with some very considerable Variation. It is compounded of $\delta\upsilon\varsigma$ and $\epsilon\pi\epsilon\sigma\sigma\epsilon\iota\varsigma$, which ^a *Caelius Aurelianus* explaining, calls *DIFFICULTAS INTESTINORUM*, a *difficultate Officii*; which Explanation does not impress the Idea of any one particular Disease upon us; and therefore *Cicero* tells us, that $\delta\upsilon\sigma\epsilon\pi\tau\epsilon\rho\iota\kappa\acute{\alpha}\ \pi\acute{\alpha}\theta\eta$ is *Viscerum Morbi*. For this Reason I rendered formerly *Difficultas Intestinorum* in *Galen's* Definition of a *Dysentery*, the Grief of the Guts; which is far from giving us an Idea of a *Bloody Flux*, however proper the Translation may be.

This Expression is so very ambiguous, that $\Delta\upsilon\sigma\epsilon\pi\tau\epsilon\rho\iota\kappa\acute{\alpha}$ is understood by good Authors of such, *cui Alvus suppressa nihil reddit*; which is a Sense very contrary to that we commonly understand, when Physicians mention a *Dysentery*.

^a Lib. iv. cap. vi.

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This being premised, I proceed in my Enquiries about the Nature of the *Bloody-Flux*, which was called by *Greek Physicians* *Δυσεντερία*, and by *Latin Physicians*, after *Celsus*, *Tormina*. Within, says the great *Celsus*, the *Guts* are *exulcerated*; *Blood* flows out of them, and that always with some liquid *Excrements*; with the *Blood* there is sometimes voided a *mucous* and *slimy Substance*, and sometimes a *fleshy Substance*.

Had these excellent Authors added one small, but a very determining, Observation, the *Diagnostick Signs* had been more perfect; their *Descriptions* of a *Dysentery* had been far more complete. This small Circumstance of the *Blood in a Dysentery being constantly and always mixed with the Stools*, will hereafter be found of great use in extricating us out of many Difficulties, that have, hitherto, perplexed every Physician who has writ on our present Subject; which Observation I will therefore explain, among the other Symptoms that are to lead us into the Nature of a *Dysentery*.

But before I can account for the mentioned Symptoms, it will be required that I relate the common Sorts of a *Dysentery*, that are to be met with among Physicians: For ^a *Galen* has mentioned four different Kinds of a *Bloo-*

^a De Symptom. Causis.

dy Flux, wherein he has been followed by *Trallianus*, and others. The *first* is the voiding of Blood in such People, who have lost a Limb, or who have omitted and given over their usual Exercises. The *second* Sort is, when poor and watry Blood is voided like Washings of Flesh, because of the Weakness of the Liver. A *third* Sort is by the Blood remaining too long in the Liver, becomes *adust*, *shining* and *melancholy*. But the *fourth* Kind of *Dysentery*, is, when the Expulsion is often, and in a little Quantity, and the Blood is sometimes pure, and altogether Blood; but it is sometimes congealed, or concreted.

We will not spend time in enquiring, at present, into these different Kinds of a *Dysentery*, because we may more properly settle or abridge these Kinds hereafter, as I am discoursing of the *Blood* of a *Dysentery*.

Galen indeed has another Division of a *Dysentery*, which must not be neglected, tho' we find not any mention made of this Division for fifteen hundred Years; and, perhaps, it may never be brought again into the Number. * *We know*, says he, *that there are two Kinds of Dysenteries; one, when the Guts are corroded with an Ulcer; the other, when a great Quantity of Blood*

* *Gal. in lib. iii. Epidem. Hippocrat.*

is voided by the Veins, that belong to the Guts. This last Sort has been received by the Physicians in all Ages, but the first has been rejected, with great Reason, till Dr. *Willis*, and Dr. *Sydenham* spake of it in an epidemick *Colick* in the Years 1669, 1676, and 1671, which they call an *Unbloody Dysentery*; an impossible Disease, in the Opinion, and in the Account of all Physicians; for the Blood of a *Dysentery* is an essential Part of it, without which it cannot be a Disease distinct from a *Diarrhæa*, or from the *Colick*; which last is plainly the Disease the forementioned Physicians describe, and they incongruously name an *Unbloody Dysentery*, or a *Bloody Flux* without Blood. Many more insignificant and perplexing Divisions of a *Dysentery* are to be met with among later Authors in Physick, some whereof I will mark as they fall in my Way; such Divisions being the Corruption of Observation, which shew only the trifling of Authors, but nothing of their Accuracy in observing; and therefore do not deserve our serious Consideration.

But to proceed, then, in our Business, and to explain the Symptoms of a *Dysentery*, with a Purpose of discovering its *Nature*; I must observe, that the greatest Number of the Symptoms of a *Dysentery* have been already found in the *Diarrhæa*, or they are
common

common to both Diseases, tho' they may differ in some Degrees and Circumstances; which Degrees and Circumstances we are to discover on this Occasion. The proper and distinguishing Symptoms of a *Dysentery*, are the Exulceration mentioned by every Physician, and the Blood with liquid Excrements; which Blood must likewise be mixed with those Excrements. Yet if the Symptom of *exulcerated Guts* proves an Hypothesis, (as in Fact it is no true Symptom) in that Case, Blood mixed with liquid Excrements voided under the common Condition of a Looseness, is the *differential* and *pathognomonick* Symptom of a *Dysentery*; which I will next endeavour to shew from the Description of *Celsus*; tho' it will be useful to premise the Description I formerly brought from *Hippocrates*, who informs us, *that when any Person is ill of a Dysentery, there is Pain and Gripping all over the Belly; and he voids Gall and Phlegm, and adust Blood.*

And first, I formerly demonstrated, that the *peristaltick* Motion of the Guts might be encreased, and a *Looseness* thereby produced, by every Cause that affects the *muscular* Coat of the Guts, or stimulates their nervous Coat. As also, these Causes have been likewise assigned, and some of them have been found to be the natural Liquors of the Body, changed in some of their most ob-

vicious and sensible Qualities. Now as these Causes of a Looseness have been already proved sufficient to produce a *Diarrhœa*, and the *Gripping* its Symptom, common, we find, to it, and a *Dysentery*; it is therefore evident why there is *Pain* and *Gripping* with a *Dysentery*, according to this Description of *Hippocrates*; as also, that this *Pain* is all over the Belly, because every part of the Guts are liable to be stimulated by the sharp Humours that occasion the *Pain*. *Hippocrates* likewise observes, that *Gall* and *Phlegm* are voided in time of a *Dysentery*. The reason of this Observation is obvious; for a greater Quantity of *Gall*, than natural, may be discharged into the *Duodenum* by the stimulating Causes of the *Dysentery*: Besides, the *Gall* itself is a very common Cause of a *Looseness*, as was formerly shewn; when, *viz.* it is either become really more *salt*, or that it is become thicker. When therefore there is a *Dysentery* there is voided *Gall* among the Stools; more especially when the *Gall* is a Cause of it: It is therefore manifest why *Gall* may be frequently seen among the Stools in a *Dysentery*. His next Observation is nothing so plain; since this supposed *Phlegm* is nothing commonly but the thinner *Mucus* that covers the *Colon* and most of the *small Guts*; and then the Case and Observation in general is true, or in a *Dysentery* there is voided

voided a *mucous* Substance like *glassy Phlegm*.

It was this *Gripping* and violent Pain all over the Belly, that induced *Hippocrates* to believe the *Guts* exulcerated in a *Bloody Flux*; But as this Notion and Opinion of an *Ulcer* has been unanimously received by Physicians, even to this time, and does very much influence their Practice, it is become very necessary to inquire, whether the *Guts* are always exulcerated, when any Person has the *Bloody Flux*; because this Exulceration is supposed to be an essential and a constant Symptom of that Disease, and great Regard is often had to it in curing a *Dysentery*.

But, from the same way of reasoning, if *Gripping* and violent Pain all over the Belly are certain Signs of an Ulcer in the *Guts*, then, and in that case, the *Guts* are always exulcerated when there is the like gripping Pain; which no Physician, at this time, will assert. For what greater Pain and Gripping is there almost in any Degree of a *Dysentery*, than we meet with in Cases of *Colicks*, and in the *Iliack Passion*? and yet no Provision is made against an *Ulcer*, in the Cure of them; because Physicians have no Suspicion of an *Exulceration* of the *Guts* in the most violent Fits of either of these Diseases.

Galen endeavours to determine in which of the *Guts* this Ulcer may be, in divers Cases of

a *Dysentery*; and by the Marks he gives us, it would appear that he was well apprized of the different kinds of *Mucus* that covered particular *Guts*. *We must consider*, says he, *if any fat Substance is voided together with the rest: If so, we may believe that the Ulcer has fixed upon the great and thick Guts.* This Judgment of ^a *Galen* is very just; for this *Mucus* is different from the *Mucus* of the *small Guts*, and does very much resemble Fat; though it is not truly a fat Substance, because it will not dissolve and melt upon the Fire.

But we become absolutely sure of the Falseness of this antient and unanimous Opinion of Physicians, that there is an *Ulcer* in the *Guts*, in every *Dysentery*, by opening the Bodies of such as die of a *Dysentery*; for, in this Examination and Search, no such Thing as *Ulcers* in the *Guts* are to be found; and a better Proof than the Testimony of our Eyes, cannot be desired. This I have been taught by upwards of an hundred successive Openings, without ever meeting with any of those alledged *Ulcers*.

There are great Numbers of such Observations to be found in our best Authors; who have, notwithstanding, adhered to the Sentiments and Authorities of other Physicians, a-

^a Lib. 6. de loc. affect.

gainst their own Experience. Doctor *Drelincourt*, an eminent *French* Physician, and afterwards a Professor in the University of *Leyden*, confirms what I alledge, telling us that *the Guts only appear thinner, and more bloody than natural; but they are not in the least exulcerated.* It is then very manifest, that *Ulcers* in the *Guts* are not an essential and proper Symptom of a *Dysentery*; and that, because the *Guts* of those, cut off by a *bloody Flux*, are very rarely affected with *Ulcers*; in the Beginning, especially, of the Disease. An *Ulcer* in the *Guts* happens as seldom, as it is very seldom cured; whereas, the Difficulty in curing a *Dysentery* is nothing so great, as the curing a *Diarrhea*; whatever is commoly said to the contrary.

Now, as it is very manifest, and out of all doubt, that an *Ulcer* is not a proper Symptom of a *Dysentery*; so, far less can it fore-run the Blood that is inseparable from that Disease, and gives it the Name of a *Bloody Flux*. This essential Symptom of a *Dysentery* may very readily be accounted for, if we recollect what is said in the second Chapter of this Book. We are taught, that the *Guts* have their *Blood* by the upper and lower *Mesenterick Arteries*, which Blood is returned back into the *Heart* by the *Mesaraick Veins*.

• Thefibus,

Besides

250 *The* DYSENTERY,

Besides the *Velvet*, or inner, *Coat* of the *Stomach* and *Intestins*, is a Composition of *Blood Vessels*: And therefore when these Vessels are deprived of their Covering and Defence, the *Mucus* of the *Guts*, they are worn thin and are exposed to all the sharp Liquors, and other sharp Substances, that we find so very common in a *Dysentery*, and that occasion the Gripping and the extraordinary Discharge of the *Mucus*. But as this *Slime* and *Mucus* was designed naturally to prevent and defend the *Guts* from sharp Juices and rough Substances that daily pass along the *Guts*, and is at this time carryed off in the *Dysentery*; it is easy to be believed that the sharp Liquors will corrode and break into the *Blood Vessels*, whereby the Discharge of Blood, which is inseparable from a *Dysentery*, is made into the *Guts*; as Physicians may daily observe.

The Blood in a *Dysentery* is excellently well determined in *Celsus*, by the following Expression, *and that always with some liquid Excrements*, which sufficiently distinguishes the Blood of a *Dysentery* from another *Hemorrhage*, or voiding of Blood without liquid Excrements; which liquid Excrements are essential to a *Loosness*, and denominate the *Dysentery*, a *Species* of it. By this plain Account of the learned *Celsus*, it is manifest that the *Tenesmus* has no Right
to

to be numbered among the Species of a *Dysentery*, as many great Authors have done; because the Blood in a *Tenismus* is in a very inconsiderable Quantity, and the Stools are never liquid in that Disease. A *Tenismus* then is a Disease of its own Kind, and is never to be ranked among the Kinds of a *Dysentery*.

From this Account we may clear away all the Confusion we find among Authors, by multiplying the Species of a *Dysentery*. This Confusion is so great, that if those fanciful and imaginary Divisions and Differences are not restrained, we must quickly deface those beautiful Histories and Pictures of Nature we find excellently drawn by *Hippocrates*, *Celsus*, and other antient Physicians. But that I may not oppress my Reader with Numbers of Examples of these new Triflers, I will content my self with an Instance or two I shall take from one of the latest Authors, and one (whose Master at least) who pretends not only to Nicety, but to great Accuracy and Exactness. *Junckerus*, in his *View of theoretick and practical Physick*, after a barbarous Description of a *Dysentery*, has this third Difference. * A *Dysentery*, says he, *must not be confounded with the Flux that is common and endemick in Paris, so that every Stran-*

* Pag. 342. Conspectus Halæ 1718,

ger is very obnoxious to the Disease. But we shall hear how these Diseases (we must not mistake, by taking one of them for the other) may be known and distinguished from one another: *Why*, says *Junckerus*, or his Master Doctor *Stahl*, *this Paris Disease* (which all other Physicians call a *Dysentery*) *begins with a Diarrhœa, and the voiding of Blood ensues it.* This is their first Mark; but how truly this *Parisian Disease*, without a Name, differs from a true *Dysentery*, the *French Physicians* never knew, nor will any other Physician be able to distinguish; for every Physician has asserted, that a *Dysentery* may begin with a *Diarrhœa*; or that this often becomes a *Dysentery*. And we find, indeed, that some Symptoms, or rather Causes of a *Diarrhœa*, become the Causes of a *Dysentery*, or truly produce that Disease. And therefore, as the *Paris Disease* is the voiding of Blood with loose Stools, as Doctor *Stahl* admits, it is truly and properly a *Dysentery* in the Sense of *Celsus*, and of every understanding Physician, and is not a different Disease, as those Men vainly imagine.

But says *Junckerus* again; *this Paris Disease is not contagious, nor does it arrive at the Malignity of a Dysentery.* These accurate Dividers are the first, I think, that ever supposed Malignity an essential part of a *Dysentery*. Every Disease is untractable (or malignant

lignant) in some Time of it or another; but more than this was never meant by that figured Speech we often find in Books of Physick. And as to the Contagion of a *Dysentery*, we all know that Physicians widely differ as to a *Dysentery* being communicated from one Man to another; and we likewise know that the like Doubt is entertained of the Contagion of the *Paris Dysentery*, as of any other; and therefore, if it is material to distinguish between the *Paris Dysentery* and another *Dysentery*, *Stahl* and *Junckerus* have not in this Article settled a distinctive Mark. The attempting this Distinction is plainly absurd, the *Paris Disease* being truly a Species of a *Dysentery*.

Another refined Difference between a *Dysentery* and the *Parisian Disease*, is, that this (a *Dysentery*) never is but in *Autumn*, or the latter end of *Summer*; whereas, the first is to be met with in any Season of the Year: A mighty nice Distinction, but a meer Conceit, altogether contrary to the History of Physick. Should a Man meet with Blood in liquid Stools (as every Physician has) in the Winter, or Spring, especially in *Paris*, this cannot be a *Dysentery*, because that is an autumnal Distemper. Surely those Authors think Physicians as stupid as their Patients; to have Descriptions offered them, and Differences of Diseases equally barbarous and false;

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false; and therefore I do not mention his third Difference.

In explaining the Symptoms of a *Dysentery*, I added from Experience, that the *Blood is mixed with the liquid Excrements*. Galen was sensible of this Fact, though he thought it, perhaps, no constant and essential Symptom, and did not add it in any Description he gives of a *Dysentery*; but rather says, that the Blood thus mixed with the Stools, denoted the pretended *Ulcer* to be in the small and thin Intestins. His Words are, ^a *But when you perceive that Blood is also voided, you must consider it, whether it be mixed with the Stools, or that a part swims upon the Stools: For if the Blood is mixed with the Stools, it shews that the Ulcer is in the higher Intestins; but if it swims upon the Stools, then the Ulcer is in the lowest Intestins.*

On the other hand, this Symptom is an essential and inseparable Symptom of a *Dysentery*, both in Experience and Reason; though neither *Galen* nor any other Physician have with due Care attended to it. In Reason it cannot be otherwise; for if we consider why the Blood is mixed with the Excrements in the *Ileum* and upwards, there is the same Reason for its being mixed with

^a De loc. Affect. lib. 6. cap. 2.

liquid Excrements in the *Colon* and *Rectum*. For let us consider *Blood* discharged into the *Guts*, in which are *liquid Excrements*; it is plain both of them must be mixed together; because the *Blood*, together with these *Excrements*, are protruded by the peristaltick Motion of the *Guts*; but this peristaltick Motion is sufficient to protrude the *Blood* and *Excrements* along the *Guts*, in all their various Windings, which in many Places ascend in an Angle, near to a right Angle. Now, as in this Case, the *Blood* and *Excrements* cannot be driven along the *Guts*, without being mixed together; consequently, the *Blood* and *liquid Excrements* will always be mixed together, while they are in the *Guts*, and can be affected with their peristaltick Motion; and therefore the *Blood* and *Excrements* are equally mixed together in the *Rectum*, as in the *Jejunum*, *b. e.* the *Blood* is always mixed with the liquid *Excrements* in the Case of a *Dysentery*. Hence we may now collect a perfect Definition of a *Dysentery*, viz.

It is a Flux, with Gripping and Pain over all the Belly, wherein is voided Blood, mixed with liquid Excrements; and with them are sometimes a mucous or slimy Substance, and sometimes a Substance more fleshy.

This Definition is so perfect, that it 'not only is truly drawn from Nature, but it likewise

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wise distinguishes a *Dysentery* from every other Disease, wherein *Blood* is to be met with in the *Guts*. We formerly were taught how to distinguish the *Dysentery* from a *Tenesmus*; and I will now teach Physicians how they may distinguish a *Dysentery* from the *Piles* or *Hemorrhoides*; which is as necessary to be known, as their Practices are opposite to one another; because great Errors have been committed in the Practice of a *Dysentery*, and of the *Piles*; Physicians not being able to distinguish between these Diseases.

As therefore the *Blood* in a *Dysentery* is mixed with liquid Excrements; so *Blood* coming from any Person at Stool, which is not mixed with the Excrements, is not a *Dysentery*, but flows lower than the *peristaltick* Motion of the *Guts* has any Power; and *Blood* thus voided is from the *Hemorrhoidal* Vessels, and is the *Hemorrhoids* or *Piles*. This *Blood* is always to be seen, sometimes under the Excrements, and then the *Blood* precedes it; but most commonly the *Blood* falls of one side, or lies a top, of the Excrement; in that case, the *Blood* flows along with the Excrements, or flows longer than we go to Stool.

I will give a few Instances, whereby the Usefulness of determining the distinguishing Symptoms of like Diseases, especially, will appear. And first *Eugalenus*, an excellent Observer

Observer of what passed under his Hands, tells us of a new Symptom of the Disease he calls the *Scurvy*, which is a *Dysenteria Mendax*, a Disease or Symptom no where to be heard of among accurate Observers in ancient Times; but what indeed is the *Piles*, as I have lately explained both. If then the Cure of the *Piles* differs from the Cure of a *Dysentery*, we must be hugely misguided by this lying *Dysentery*. But that the Symptom is the *Piles*, we may learn from his own Words. *Quibus Sanguis crassus & feculentus in Venis abundat, iis Venæ in Intestinis desinentes, sæpenumero sanguinis aliquid cum his Dejectionibus effundunt, Excrementis non permixtum, sed ab his separatum, atque absque omni lancinatione descendens; manifesta a Dysenteria Differentia.*

It is very plain by this Description of *Eugalenus*, that his Symptom is not any Kind of *Dysentery*, but the *Piles*, in the very manner I have distinguished that Disease from a *Dysentery*. It has been the Fate of that worthy Physician to give us a great many excellent Descriptions under false Titles. Perhaps his whole Book is of this kind; the very least part of it concerning the *Scurvy*; which no Physician has these hundred Years considered. Other Physicians, who are wiser

than to collect what passes before them, but that are taken up with Prejudices and Conceits of their own, confound Nature, and give us false Pictures of her.

Authors have found it very difficult to find out the distinguishing Mark of the *Piles*, and of a *Dysentery*. ^c *Crato* gives us this false Difference, *In eo est Discrimen : in tali fluxu Hemorrhoidum semper sanguis præcedit Fæces : in Dysenteriâ vero vel post, vel cum fæcibus excernitur*. The first Part of this Account is very true, the last Part of his Account is very false ; and from the whole arises great Confusion. *Crato* gives many other Marks, which I do not mention, because they are altogether precarious and conjectural.

Baglivi, who is a great Plunderer of Authors, ^b gives us the same very Account of *Crato* ; and consequently both are found false by comparing them with Nature. *Junckerus*, and Dr. *Stahl*, who likewise are greater Copiers of Books, than of Nature, tell us, ^c that a *Dysentery* is graphically counterfeited by the *Piles* ; that they often impose upon Physicians ; but may be easily distinguished from a *Dysentery* by the following Marks. We know what Author Dr. *Stahl* graphically counterfeits ; but we will

^a Confil. ^b Lib. i. prax. ^c Tab. 52. Conspect.

find that his Marks set us wider of our Purpose than before.

The first Difference and Mark the mentioned Dr. set between a *Dysentery* and the *Piles*; *In Dysenteria ordinariæ aliquid spumidæ & ulcerosæ similitudinis apparet, in Hemorrhoidibus nihil hujus reperitur.* This Difference is partly founded on the Hypothesis of an *Ulcer* in the *Guts*, and partly on a Conceit peculiar to these Authors: for though exulcerated *Guts* in a *Dysentery* is a pure Supposition, and nothing real, and *Pus* is very rarely to be found in the *Bloody Flux*; yet the frothy Blood is the Child of a fermenting Brain; a thing unknown either in the *Piles*, or *Bloody Flux*. In the *Diarrhœa* Physicians mention frothy *Stools*, but frothy *Blood* is not found among Authors; which being a Fact constant to some one of these Diseases, could not possibly have been overlooked, by the diligent and sagacious Physicians, in every Age of the World. The second Mark that distinguishes a *Dysentery* from the *Piles*, given us by these Physicians of Observation; *Dysenteria est contagiosa: Hemorrhoides, impeditius fluentes, non item.* This is again an empty Hypothesis, formerly exploded; but the Mark must be false, because we have often heard of the *Contagion* of the *Hemorrhoids*, as well as of a *Dysentery*; and therefore this Mark,

being common, proves no Mark at all, of Distinction at least.

The Contradiction of this third Mark to all Physick History has already been observed, and at present needs not to be repeated, whether the *Piles* be stationary, or not, as Dr. Sydenham speaks, and Stahl echoes; it is well known, that a *Dysentery* is not fixed to any one Season of the Year.

The fourth Mark of *Junckerus* is as frivolous as any of the former. In *Dysenteria augescens sanguinis Excretio exasperat malum, in Hemorrhoidibus autem, quo magis fluxus sanguinis succedit eo magis symptomata, precipue torminosa, imminuuntur*. Here are as many Blunders against Observation as there are Sentences: But we will first suppose all his Marks are true; yet as a great Loss of *Blood* by the *Piles* has been very fatal, Physicians want a distinctive Mark between the *Piles* and a *Dysentery*, without Death making good the Difference, or that a sick Person must be sacrificed to determine a conjectural Difference: but if there should not be much Pain (our Author calls barbarously *Symptomata torminosa*) as it sometimes happens; it is very plain, that we have no distinctive Mark. Such Differences are the *Reveries* of Men awake; but they neither agree with *Nature*, nor with other Accounts of Physicians; and are therefore false.

Thus our modern Improvers drop into Confusion and Numbers of Errors; they neither attending to Nature, nor will they be instructed by Books of Physick, where Nature may be found livelily drawn.

But to proceed; the next Symptom is of the *Blood*, in a *Dysentery*, being adust; which is a Symptom of a *Dysentery* given us by *Hippocrates*; but which is nothing so constant, as the *mucous* and *fleshy* Substances cautiously mentioned by *Celsus*, among the Symptoms of the same Disease. *Sometimes, with the Blood*, says *Corn. Celsus*, *is voided a mucous Substance, and sometimes a fleshy Substance*; all which Symptoms I will endeavour to explain, that we may know from whence they proceed, and how far they are truly Symptoms of a *Dysentery*.

Aduſt Blood, in the Opinion of ancient Physicians, is occasioned by its remaining longer than ordinary either in the *Liver*, or in the *Spleen*; and is supposed to be mixed with melancholy Humours. This Blood is of a very *bright Redness*; which, on that Account, was thought to be *burned*, and in the Language of *Dr. Sydenham* and some other Physicians, is *inflammatory* Blood. It is this Kind of Blood *Hippocrates* observed to be voided in a *Dysentery*. This is often the State of the *Blood* when Men are ill of a *Dysentery*; and this adust Blood

always denotes a Thickness of Blood greater than natural, if the bright Colour is not acquired in the Guts themselves, by being mixed with *acid*, or other *Liquors*; that we know will raise the Colour of the *Blood*. But if the *Blood* has not become of a shining Redness in the Guts, but is thicker than natural; in that Case thicker *Blood* driven along the *Arteries* must break through some of the smallest of them, if the *Momentum* of the Blood's Motion is natural; and consequently Blood must be discharged into the *Guts*: But this Blood is supposed to run into the *Guts*, by breaking through its weaker Vessels, and that by its Thickness; and thick Blood, before it corrupts, being of a bright Redness, or being *adust*; it is now manifest, why *adust Blood* is often found among the Stools in a *Dysentery*.

It was from a very different Consistence and Colour of Blood, when, *viz.* it is *thin*, *pale* and *watry*, like the *rinsing* and *washing* of Flesh, that ^a *Trallianus*, and other Physicians after him, constitute a Species of a *Dysentery*, under the Name of *Fluxus Hepaticus*, or, *the Liver-Flux*. This Colour of Blood shews, indeed, its Poorness, and that it has gone many Degrees from the natural and due Consistence and Colour of

^a Lib. vii. cap. xxi.

Blood ; but it does not in the least denote any Defect of the *Liver* in not preparing the Chyle, and manufacturing it into more perfect Blood. This is obvious to every Physician in this Age, who have the plainest Demonstration against the Chyle passing into the *Liver* directly from the Guts, as even *Casper Asellius* imagined ; and are firmly persuaded, that it is not the Duty and Office of the *Liver* to turn the Chyle into Blood : And therefore the *Liver-Flux* is no Species of a *Dysentery*, tho' many good Authors retain the Name, while they explain the inward *Piles*, or *Hemorrhoids*.

Among the Symptoms of a *Dysentery* we find there are Skins in the Stools, and the great Physician *Cornelius Celsus* tells us, that, sometimes, there may be found a fleshy Substance among them ; both which Appearances I am now to explain ; for thereby we may know how, and when, to cure a *Dysentery*, under the mentioned Circumstances ; at least we may know how far a Remedy may be successful. As for the *Skins* that are found among the Stools, we may be apprized of them by calling to mind what was said, in the second Chapter, of the Structure of the *Guts* ; for tho' in a large Sense they seem to be a Composition of several skinny Substances, and in a proper Sense, their inner Coat (which we principally

consider on this Occasion) is a Structure of *Blood-vessels*, whose Coats are membranous. Now the griping Causes, we have already found in a *Dysentery*, can both swell and corrode these Membranes; in both which Cases, the Slough of these Membranes, or Bits of Skins, may be thrown off the fourth and inner Coat of the Guts, and be mixed with the Stools. And therefore it is that Bits of Skin are mixed with the Excrements, and voided together with them in the Course of a *Dysentery*.

Indeed, we do not only find small Parcels of this skinny Substance among the Stools; but even large Pieces of the inner Coat of the *Rectum* it self has been voided with the Stools of a *Dysentery*, as I shall hereafter relate, among the Cases and Observations.

But if we consider, in the next Place, the inner Coat of the Guts, not only divested of its defending *Mucus*; but that a Part of their Substance, is even thrown off in *Skins* and *Slough*, as I have shewn; as also that these sharp Humours are still in their Vigour, corroding the Guts, we cannot doubt of the *Ichorous* Discharge we frequently meet with, nor of the *Fungous*, and even *Carcinomatous* Substances, we find sometimes voided among the Excrements in the Course of a *Dysentery*; however difficult a *Dysentery* is
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on these Occasions to be cured, as *Hippocrates* asserts; and the Nature of the Thing must prove to those, who have not had Difficulties of this Kind to contend with.

Having thus explained the most essential Symptoms of a *Dysentery*, which have informed us of its Nature; and will hereafter guide and direct us in the best Methods of curing a *Dysentery*; I must proceed with modern Authors, and explain some other Symptoms that happen, only by the long continuing of the Disease; though they are not strictly and properly any Part of a *Dysentery*.

When a *Dysentery* has lasted any considerable Time, there is a *loss of Flesh*. *Hippocrates* informs us, that ^a *a loathing of Food, and a loss of Appetite, are very ill, when a Dysentery has lasted a considerable Time; but it is still worse, when a Dysentery is attended with a Fever.* The Guts are often *inflamed*, thin, *schirrous*, and sometimes mortify; and a *Dysentery* ends in *Death*.

And first, *the loss of Flesh*, so common in a *Dysentery*, after it has lasted a considerable Time, is manifest from what has already been said of a *Diarrhœa*; there being the same Reason for both, as far as that Symptom is produced in both, under the like Cir-

^a Aphor. 3. Sect. vi.

cumstances.

cumstances. Yet in a *Dysentery*, the Sick lose their *Flesh* on another account; for not only the Supplies that recruit the natural Evacuations are carried off, before they reach the Blood, and great and preternatural Secretions are made out of it, at the same time it is deprived of the mentioned Supplies, which is the Case in a *Diarrhœa*; but *Blood* it self is discharged into the Guts, and voided with liquid Excrements in a *Dysentery*. And therefore the Vessels of the Body, more particularly the *Blood-vessels* of the Muscles, being drained of Blood, they are thinner and not so plump, *b. e.* the Sick of a *Dysentery* grow lean, and lose their *Flesh*.

Hence we may collect the Truth of this *Aphorism* of *Hippocrates*, that a loathing of Food, after a long continued *Dysentery*, is ill; but worse, when with them there is a *Fever*: For the Sick avoiding their *Food*, are deprived of the common Supplies of the Blood, which are at this Time, even more necessary than in Health; the Discharges from the Blood being greater than natural. But the Sick loathing their Food, in a *Dysentery* that has lasted for some time, is very ill, because they are thereby deprived of their necessary Support; without which they cannot subsist. Besides, there is a *Fever* which encreases this abhorring of Food, encreases the *Dysentery*, and it self weakens the Sick

of a *Dysentery*. And therefore it is a very ill State of a *Dysentery*, when there is along with it a *Fever*, and a *loathing of Food*.

Physicians have likewise observed, that the *Guts* are *inflamed*, when a *Dysentery* has lasted for any considerable Time. This will be manifest, if we remember but one common Symptom of a *Dysentery*, and some of the Consequences of it, we formerly mentioned; this is the *Gripping* in a *Dysentery*; whereby the defending *Mucus* of the *Guts* is thrown off in great Abundance, and they left bare, exposed, against the Provision of Nature, to all the sharp and gripping Liquors, and rough Substances, that pass along them. But these sharp Liquors, and rough Substances inflame membranous Parts; and are continually passing the *Guts*, as we know by the constant Gripping. It is therefore evident, how the *Guts* are often *inflamed*, in the long Course of a *Dysentery*.

In a *Dysentery*, the *Guts* are found thinner than natural. This Symptom is more constant in a *Dysentery* of a long standing, than the former of an Inflammation. The *Thinness* of the *Guts* may proceed, from their being deprived of their *Mucus* only. But this *Thinness* is more particularly caused, by the general Decay of *Blood* over all the Body. Now there being a smaller Quantity of *Blood* than natural, in the *Veins* and *Arteries*, their
inward

inward Surfaces must come nearer and nearer to one another, and these *Veins* and *Arteries* will be thinner; and that according to the Waste of Blood that is made out of these Vessels. And therefore in a *Dysentery*, the Blood-Vessels in the Guts being thinner, the *Guts* themselves must likewise become thinner than natural, as is often observed. The same reasoning holds as to the *muscular* Coat of the *Intestins*, and of their most membranous Coats; the Sides of these Vessels, whereof these Coats are composed, approaching nearer to one another, even to their Surfaces touching one another, by the Loss of their different Liquors by a *Dysentery*. And it is therefore evident, why the *Guts* are often worn very *thin*, by the lasting of a *Dysentery*.

It is by the continuing of a *Dysentery* that the *Guts* are, sometimes, found to be *schirrous*; for after the Force of the circulating Liquors is vastly weakned, the Liquors in the small and inflected Vessels of Glands readily flow slowly, and totally obstruct the Vessels of the *Glands*. But in a *Dysentery*, the Blood passes more frequently through the *Glands* and *Blood-vessels* of the *Guts*, and that because of the great *Stimulus* and *Gripping* in that Disease. And therefore, when the *Impetus* of the *Blood*, and of the circulating Liquors is very much less than natural,

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the Blood and circulating Liquors stop in the smallest and most inflected Vessels; and thereby the Bulk of the *Glands* is encreased, *h. e.* they are tumid and swelled. Moreover, when *Glands* are obstructed, or that there are *Tumours* formed by these Obstructions, the *Tumour* is more or less hard, as the Liquors flow together through the Gland; or that the thinner Parts of those Liquors flow in a greater Proportion, than the harder and grosser Parts of them. In this Case, the *Tumour* is very hard, or it is schirrous. It is then very manifest, under what Circumstances of a *Dysentery*, and in what Time of this Disease it is, when a *Schirrus* is formed.

Physicians have likewise found the *Guts*, of those that dye of a *Dysentery*, mortified. This Accident evidently happens in the Time of dying; for as the *Guts* are sometimes inflamed in a *Dysentery*, as has already been shewn, so this great Quantity of Blood (which is always, when any Part is inflamed) corrupts and turns black; which is a *Mortification*. And therefore it is evident, that a *Mortification* is in a *Dysentery*, when the *Guts* are inflamed, and the Sick die under these Circumstances of the Disease.

From this we may be sensible of the Falseness of Dr. *Baglivi's* Assertion, who tells us, that the *Guts* of all that die of a *Dysentery* are always mortified; which
Assertion

Assertion contradicts all Experience ; and we now see the Circumstance of a *Dysentery*, when the *Guts* are *black* ; which *Blackness* is not a Cause of the *Death* of the Sick, but ensues upon it. This is more particularly certain, if the *Dysentery* continues, till a little Time before the sick Person expires ; for, in that Case, there cannot possibly be a *Mortification*, let the *Guts* appear ever so *black*, or mortified, after the sick Person is dead. I desire Physicians would be very attentive to what I observe on this Head ; because I have found several Physicians of Character in this Town, to have fallen into this Mistake ; and that I have often cured their Patients, after these supposed Mortifications of the *Guts* ; which had been impossible, if the *Guts* had been really mortified.

To conclude ; it will seem unnecessary to assign a Reason for *Death* concluding these miserable Symptoms. For in a *Dysentery*, not only immense Quantities of secreted Liquors are discharged from the Blood ; and the Recruits of the Blood are carried off, as formerly, in a *Diarrhœa* ; but *Blood* it self, and with it our Life, are poured out in the present Case ; or, *Death* often puts an End to a *Dysentery*.

C H A P. XIII.

The Causes, commonly assigned, of a
DYSENTERY.

 Hippocrates observes, that ^a the Air is hot and sultry, when Men are most obnoxious to a Dysentery. People are ill of a Dysentery by drinking *spirituous Liquors*; and People of a *bilious* Constitution are subject to a Dysentery; and Hippocrates ranks ^b black Gall among the Causes of a Dysentery. Hippocrates observes, ^c that Men are most apt to have a Dysentery after they pass their Youth. People that have the Piles stop upon them, often have a Dysentery. Women sometimes have a Dysentery by stopping their monthly Courses. Hippocrates likewise assures us, that ^d Men have fallen into a Dysentery for the Loss of a Limb. A *Diarrhœa* occasions a Dysentery.

First then, *hot and sultry Air* can variously affect the *Blood* so as to make it burst its Vessels. At present I will only insist on the most ordinary Manner the *Blood* is in-

^a Aphor. 16. Sect. iii. ^b Aphor. 24. Sect. iv. ^c Aphor. 30. Sect. iii. ^d Lib. iii. de victus rat. pag. 345, 346.

sected,

fectcd by *hot Air*, when it breaks through its Vessels, leaving the rest to be farther explained in the *Animal Oeconomy*, or as they occur in other Diseases. *Sultry* and *hot Air* then rarifies the *Blood*, a Liquor that admits of being greatly rarify'd: But the *Blood* thus rarify'd, by *hot Air*, distends its Vessels, and is the Cause of their *bursting*. This more readily happens when either the Season changes from being very *cold* to be very *hot*, and that of a sudden; or that People change their Climate from *hot* to *cold* very quickly. Now the *Blood-Vessels* of the *Guts* being naturally weak, or becoming so by the loss of their *Mucus*, or the *Sharpness* of their Liquors, the Mouths of the *Arteries* of the *velvet Coat* easily open and discharge their Blood into the *Guts*: And therefore *Blood* discharged into the *Guts*, especially when they are filled with liquid Excrements, is mixed with these Excrements, and is voided with them; *h. e. sultry* and *hot Air* is truly a Cause of this Evacuation, or of a *Dysentery*.

Spirituos Liquors are a Cause, very near, of the same Kind; for *spirituos* Liquors rarify the *Blood*, and encrease its Velocity. By the first, *spirituos* Liquors are a Cause of a *Dysentery*, as in the preceding Case. By the second, the Blood being impelled with a greater Velocity, distends its Vessels in a
Propor-

Proportion compounded of the rarified Quantity of the Blood, and its Velocity. On this Consideration spirituous Liquors are a more powerful Cause of a *Dysentery* than *hot* and *sultry Air*.

As to the People who are most obnoxious, naturally, to be taken ill of a *Dysentery*, they are of a *bilious* Constitution; because *Gall* is a sharp and stimulating Liquor naturally; or one great Purpose of the *Gall* is to stimulate the *Guts*, and thus to keep up their *peristaltick* Motion. The *Sharpness* of the *Gall*, then, being at any time increased, we found to be the Cause of *Griping*, and of a *Diarrhœa*. We likewise have found, that this *Gall* continuing to stimulate wears off the *Mucus* of the *Guts*, and makes them void Blood by its Sharpness. People therefore of a bilious Constitution are very liable to be ill of a *Dysentery*.

But *Hippocrates* observes that *black Gall* is a more particular Cause of a *Dysentery*; which Observation will hold true if we find this *black Gall* sharper than the *yellow Gall*. This Opinion of *Hippocrates* is known by comparing two different Places of his *Epidemics*. He tells us in the first, that they breed *yellow Gall*, who are fat; but they that are not so fat breed a *blackish Gall*. He says,

† Lib. vi. Epid. Sect. vi. and Lib. vi. Epid. Sect. v.

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that

that the Blood of the Piles has a great Affinity with *black Gall*. Now as *hemorrhoidal* Blood was, by them, esteemed thin, black and acrimonious; it is therefore evident, that *black Gall* was by *Hippocrates* esteemed very sharp and stimulating, but sharp and stimulating Liquors being found a sufficient and a true Cause of a *Dysentery*, *black Gall* must, on that Account, be truly a Cause of it.

While Physicians mention the different Powers of *black* and *yellow Gall*, in producing a *Dysentery*, they put a Question; Why *yellow Gall* produces a *Dysentery* in a little time, while the *green* and leek-like *Gall* is the Cause only of a simple *Diarrhœa*, that never becomes a *Dysentery*, though it often continues for a considerable time? The Reason of asking this Question is, because these Authors suppose the *green Gall* to be more *sharp*, by the *Aduſtion*, which they conceive to be induced upon the common *Gall*, that is *yellow*; and that a Degree of Acrimony being added to the *yellow Gall*, should make it much sharper, and more stimulating; yet they find this does not hold true in Experience.

I observe then, that this is altogether a Dispute between an Hypothesis and Experience. Physicians had supposed the *Greenness* of the *Gall* to be owing to its *Aduſtion*; (an unknown Quality) which *Aduſtion* is supposed

to

to render the *yellow Gall* more acrimonious than it is naturally : But it being by its greater Acrimony that it becomes the Cause of a *Dysentery*, and the *yellow Gall*, before this additional Sharpness, could only produce a *Diarrhœa*, Physicians expected, that this *adust* and *green Gall* should more effectually become the Cause of a *Dysentery*, than the *yellow Gall*, they supposed not to be so *sharp* and *acrimonious*. This is the State of their Question, that the *Experiment*, especially, if we consider what is every where said, destroys their *Hypothesis* of the Sharpness of *green leek-like Gall*.

Great Physicians, who have been tenacious of this ancient Opinion, maintain this Hypothesis of the *Adustion* of *Gall*, and that the *green, adust Gall* is truly sharper, tho' it fails in producing a *Dysentery* (the Effect of its Sharpness) and that it is produced by *yellow Gall*, which is nothing so sharp, and less fitted, on that Account, to be the Cause of a *Dysentery*. For this Purpose *Amatus Lusitanus* alledges, that there is a Viscidity joined to the *yellow Gall*, which keeps it longer in the Guts, when it produces a *Dysentery*; and that this is the Reason why *yellow Gall* (that is not so sharp as the *green Gall*) is an effectual Cause of a *Dysentery*.

But this Supposition of Viscidity is truly precarious, and would have Consequences of another Kind, were it applied to the *green* and pretended *adust Gall*; and therefore such Suppositions do not prove any thing. It is very certain, that the Sharpness of the *Gall* is a true *Cause* of a *Dysentery*, whether the *Gall* be *black, yellow, or green*; as also, that any of them may be sharper than another, at different times, tho' the Sharpness is not owing to the Colour, nor does the Colour always denote the Sharpness of the *Gall*; and therefore this Notion of *adust Gall* is a meer *Hypothesis*.

The *Causes* we find next assigned of a *Dysentery* are *Facts* rather than *Philosophy*, and are commonly true *Causes*, which we will therefore now examine. *Hippocrates* observed, that Men are most apt to have a *Dysentery* after they pass their Youth. Now, this Observation points out the time, when Men begin to be subject to a *Dysentery*; and tho' this Observation does not expressly shew, and denote any *Cause*, yet when this Observation is explained, the *Cause* of the *Dysentery*, and the Truth of the Observation, will appear together. The Reason for the Observation I gave long ago, when I treated of the ^a Cause of Women having monthly Courses,

^a Oeconom. Animal. pag. 130.

and

and why they come upon them at a certain time : For when the Vessels of a Man are as fully explicated and unfolded (especially in their Length) as the Force of his Blood can unfold them, then it is he begins to be a Man ; then it is that an Error in the *Thickness* and *Quantity* of the Blood becomes sensible, while the *Velocity* of the *Blood* continues natural, and the same. And, on the other Hand, an Error in the Blood's *Velocity* becomes perceptible, while the *Quantity* and *Thickness* of the *Blood* are natural. In either of these Cases we found that the Vessels may be so stretched, and distended, as to be broke through, where either they are naturally, or by some other Defect, most weakly, tender, and least resisting : And therefore it is, that Men become more subject to a *Dysentery*, when they have passed their Youth. This might be shewn at greater length, and in more Particulars ; but that it may be found already done in the learned Dr. *Freind's* excellent Book, his *Emmenologia*.

From this Account we will easily learn, why *Women* are subject to a *Dysentery* by their *monthly Courses* stopping. One *Woman* with another voids about eighteen Ounces of *Blood* in the Course of a Month, or thereabouts : A *Woman*, then, that has not her monthly Courses, in some Months, has, at

least this Quantity of Blood greater than natural, other natural Evacuations being the same; though the Quantity of Blood may be double, or triple, the Quantity of Blood retained for the Time of the Suppression. Now the Quantity of Blood, greater than natural, will stretch and break through its Vessels that are naturally weak, or defective. But the *Arteries* of the velvet Coat of the *Guts* terminating in it, are easily opened, especially when they are divested of their Mucus, or corroded. And therefore a great Discharge of Blood into the Bowels easily happens, when the Quantity of Blood is increased, *b. e.* this Discharge of Blood is very manifest, and easy to be conceived, while *Women* have not their monthly Courses. What is said here may, by proper Changes, be applied to another Observation of Physicians; that People accustomed to have the bleeding *Piles*, are subject to a *Dysentery*; when the *Piles* are stopped upon them.

But, to speak my Opinion freely, it is plain enough, that there may be an *Hemorrhage* from the *Blood-Vessels* of the *Guts*, upon any common and accustomed Evacuation of Blood discontinuing; yet we may very much doubt of its producing a *Dysentery*; *b. e.* the going of liquid Excrements, with which this Blood is mixed, and together expelled

expelled and voided out of the Guts. And therefore it is, that in all such *Hemorrhages*, we commonly find a small *Griping* precedes, and creates a Desire to go to Stool, when nothing besides Blood is voided. But this shall be farther considered in the next Observation of *Hippocrates*, and of other Physicians, that Men are subject to having a *Dysentery* after the Loss, and Amputation, of a *Leg*, or of an *Arm*.

Not only *Hippocrates*, but almost every Physician (even after the Discovery of the Circulation of Blood) thought a *Dysentery* unavoidable, after the Loss of a *Limb*; as that were the readiest Way to discharge the daily Provision made for a Limb, that is now no more. Moreover, *Hippocrates* not only thinks a *Dysentery* unavoidable, but useful and necessary, ^a *They*, says he, *who have suffered an Amputation, we may hope, will soon after have bloody Stools*.

Indeed, if there truly was such an extraordinary Quantity of Blood in the Body, after Amputation, as is supposed in the present Case; then an *Hemorrhage* should not only be unavoidable, but useful and necessary too; as *Hippocrates* wishes, for the Relief of Nature, and the preventing a Disease. For if the Blood could not otherwise be dis-

^a Lib. de Articulis,

charged, than by an *Hemorrhage*, frequent Hemorrhages should be necessary after Amputation; nor could they be avoided. The last is evident, from what has been said, concerning the Courses of Women; so is the first, if we consider, the Person without a Limb eats as much, and breeds as much Blood, after an Amputation, as before he lost a Limb. Now, if the Observation were commonly true, it would not only be necessary to have a *Dysentery*, after an Amputation, but such *Dysenteries* ought to be repeated.

Physicians could not imagine, how this unnecessary Quantity of Blood was disposed of; nor can I conceive, how one Fit of a *Dysentery* could remedy the Consequences they apprehend, and therefore I will, next, explain this Difficulty; whereby we may learn, that there is not any Necessity for a *Dysentery*, or for an Hemorrhage of any Kind, for the *Safety* of a Person, who has lost a Limb; and as there is no Necessity for any *Hemorrhage*, we need not be anxious about a Provision, we find Nature seldom, or never makes. So this Explanation will be more a Relief to the *Surgeon*, than to the *Sick*, who truly wants it the most of the two; if ever we may think Men want Knowledge.

These

These Things will become evident, if we consider the Quantity of Blood that is lost by the amputated Limb, and the Proportion of the recruiting Aliment, that daily went for the daily Support of the Limb, that is amputated. Let this amputated Limb be a *Leg*, and that *Leg* a fourteenth Part of the whole Body; it is then evident, that by the Loss of a *Leg*, there is gone off with it one fourteenth of the whole Mass of *Blood*, that *Leg* having its Share of the whole Mass. So that there is not any Superfluity of Blood, or any new *Plethora*, by the Amputation. Moreover, the daily Supply that is made for this amputated *Leg*, is likewise a fourteenth of the common Supply for the whole Body; but this, according to *Sanctorius*, is about seven Pound in *Meat* and *Drink*; the daily Supply, then, of the *Leg*, is half a Pound; which in a few Days should encrease the Quantity of Blood, even to a *Plethora*.

But we must grant, that the *Diet* of a Person, under the Circumstances of an Amputation, is not only less in Quantity, but it is likewise less nourishing; so that this *Plethora* must be longer in making, though in double or treble the Time a *Plethora* must be; and sooner, after the Person is restored to his Health, and lives again as he did before the Amputation; which *Plethora* should subject such a Person often to a *Dysentery*; which as
much

much contradicts Experience, as the former does our Reason.

Hippocrates conceives this whole Affair after this Manner. These are the Consequences of a *Fulness*, in those who digest their Food well, but whose *Flesh* does not receive it. It daily heats and disturbs the Body, and occasions a *Loosness*; thus it is called, while the Food only corrupts, and is voided by Stool. But when the Body is heated, and sharp Excrements are purged off, the *Guts* are corroded and exulcerated, and unconcocted Aliment is voided; and this we call a *Dysentery*.

However this may be, it is now very certain, that there is not any *Plethora*, or exceeding Quantity of Blood, accumulated by the Amputation of any Limb, which the supposed *Dysentery* is wanted to cure. This should become more manifest and satisfactory, by shewing, from the *animal Oeconomy*, that the Blood's Quantity can never be increased to a *Plethora*, for above twenty four Hours, while the Fluidity of the Blood is natural and unchanged. This Proposition is evidently of the greatest Use, for understanding, and curing, Diseases; and it wholly destroys all these imaginary Encreases of Blood, that are commonly supposed. This likewise shakes the fundamental Principle of *Bellini's Theory of Fevers*; and altogether destroys

destroys that of Dr. *Cheyne*; which is taken from the learned and elegant *Laurentius Bellini*.

But before I leave this Subject of a *Dysentery*, the *critical Dysentery* of *Hippocrates* must not be neglected. All Authors take Notice of *epidemick Dysenteries*, that have depopulated Countries, and that are not only *Diseases*, but that have likewise been the *Symptoms* of some other Diseases that were popular and epidemick. ^a In the Summer the *Bloody Flux* was epidemick; and some of the Sick, who likewise bled at Nose, ended their Distemper after this Manner, for they fell into the *Bloody Flux*; as it happened to *Myllus Eration's* Son, who fell into the *Bloody Flux*, after great bleeding at Nose; and all were delivered from all Danger: Among these were *Bion*, *Cratia*, *Areton's* Son, and the *Wife of Menesistratus*.

Hence we may account for all the ill Consequences that have attended the improper and untimely stopping a *Dysentery*, which Physicians have recorded in their Books. Does a *Dysentery* discharge an exceeding great Quantity of Blood? And is the Blood thereby reduced, not only to its natural Quantity, but to its natural Fluidity? A Cure then of this Kind is the productive Cause of these Diseases, that consist in a Quantity of Blood, greater than natural:

^a Lib. i. Epidem. Sect. 2.

Such

Such are a *spitting of Blood*; a *Pleurisy*; a *Mania*; an *Apoplexy*, &c. And therefore, Physicians ought equally to be qualified, how to distinguish between a *symptomatick* and a *critical Dysentery*, as between a *symptomatick* and a *critical Diarrhœa*; especially, that the ill Consequences of the former, are more sudden, more terrible, and as fatal, as those of the last; Though, hitherto, we find little or no mention of this Kind of a *Dysentery* in Physick. These prudential Administrations are still in Obscurity; and Physicians have only *pretended* to this distinguishing Skill, by suggesting that others were not possessed of it.

But to finish the Causes of a *Dysentery*; we find that a *Diarrhœa* is often the Cause of a *Dysentery*; or, which is much the same, that a *Diarrhœa* has become a *Dysentery*. The Reason is evident; their stimulating Causes are common; the *Sharpness* of *Gall*; the *Sharpness* of *unripe Fruit*; the *Sharpness* of *unconcocted*, and *corrupted, Food*. And therefore, the *Sharpness* or *Acrimony* of these Causes, or of any of them, being encreased, is the Cause of a *Dysentery*. So that a *Diarrhœa*, produced by stimulating Causes, differs only in Degrees from a *Dysentery*, which is likewise produced by the same Causes; but with a greater Degree of *Acrimony* and *Sharpness*. And therefore,

fore, in that Sense, a *Diarrhœa* is truly, and properly, a *Cause* of a *Dysentery*.



CHAP. XIV.

The Cures of a DYSENTERY.



Dysentery has been commonly reputed the *Loosness* most difficult to be cured; and Physicians seem rather to speak from their Fears, than their Experience, when they say so. For, in the whole foregoing Account, there is nothing plainer, than that a *Dysentery* consists in one Thing only, which is likewise common with it to a *Diarrhœa*, though in a greater Degree in the first. This is the *griping*. And therefore the *Indications*, for curing a *Dysentery*, are the same with those for curing a *Diarrhœa*; as we find in Experience, and in the Practice of Physicians. *Vomiting* and *purging* Medicines are not of any different Use here, than they were formerly when they were recommended, for curing a *Diarrhœa*: They are to carry off the

the stimulating Substances, that occasion the *griping*, as they did before in the former Disease.

Indeed, *bleeding* is more peculiar to the Cure of a *Dysentery*, than can be alledged, when it was formerly recommended in the Cure of a *Diarrhæa*. ^a *Hippocrates* informs us, that the Wife of *Epicharmus* was ill of a *Dysentery*, before she was brought to Bed : She had *griping*, and her *Stools* were mucous. But she got well soon after she was delivered. *Galen*, *Alex. Tralianus*, *Aetius*, and all other Physicians, have commended *bleeding* for curing a *Dysentery*.

Astringent Medicines are not only chiefly depended on, but promise something particularly, in the Practice of a *Dysentery*.

Diuretick Medicines are even as highly recommended for the Cure of a *Dysentery*, as they were for curing a *Diarrhæa*. But as these Medicines cannot, under any Circumstance, and in any Case, of a *Dysentery*, ever be found useful ; it is very manifest, that Physicians may pretend to follow Experience, and to make Observations ; but that this Practice of *Diureticks* arises from neither : I shewed, formerly, that the Practice of *Diureticks* for curing a *Diarrhæa*, was a falla-

^a Progn. 2.

cious Inference, drawn from an Observation of *Hippocrates*, that was it self very true; but I demonstrated, at that Time, that *diuretick* Medicines could not cure any kind of *Diarrhœa*; and it is now evident, that it cannot be pretended, that they are proper Means for curing a *Dysentery*. All this Reasoning is not only confirmed by the Experience brought in the mentioned Chapter; but it is the positive and express Experience of *Cornelius Celsus*, that the Medicines that provoke a great Quantity of Water are useful, by turning the Humour on another Part, when they can have that Effect; but they certainly encrease the Disease, when they do not occasion a Quantity of Urine. And therefore they must not be administered to any Person, whose Urine is not easily forced.

On all these Considerations, it is altogether unnecessary to give any farther Explanation, how *vomiting* and *purging* Medicines cure a *Dysentery*; when it proceeds from, and is occasioned by, Substances that stimulate the Guts, and occasion *gripping*. The Reader will find that already done in the Practice of the *Diarrhœa*; I shall, at this Time, barely mention the *purging* Medicines more particularly recommended, for curing the *Dysentery*; and, hereafter, I will consider *bleeding*, and *astringent* Medicines, as they
more

more especially are wanted for the Cure of a *Dysentery*.

To proceed ; as *vomiting* and *purging Medicines* are Remedies of a *Dysentery* and of a *Diarrhœa* equally ; so, that I may not repeat the Forms already recorded, I desire my Reader to have recourse to that Place. However, I cannot neglect the mentioning an Opinion of *Galen*, who doubts of the Safety of *purging Medicines*, in curing a *Dysentery* ; who, notwithstanding, recommends *Rhubarb* as a most useful Medicine for that Distemper. It was the binding Quality of that Drug, he thought, most considerable, without having any Regard to its purging. ^a Moreover, says *Galen*, the binding of *Rhubarb* is very powerful, as we may learn from the great Benefit they that spit Blood, and they that have a Bloody Flux, or the *Cæliack Affection*, receive from it. ^b *Paulus Ægineta* confirms or copies this Opinion and Experience of *Galen* in his Works. It seems then, that *Galen* gave *Rhubarb* in the Cases of *Hemorrhages* in so very small a Quantity, that he was not sensible of its purging Quality ; and we may doubt, whether he knew this its Power and Faculty of purging.

^a De simplic. Medicament. facultat. lib. viii.
Meden. lib. vii.

^b De Arte

Whether *Galen* was apprized of the purging Quality of *Rhubarb*, is not the Question at this Time; but as purging is always useful, when there is *griping*; if the Strength of the Sick admits of an evacuating Medicine, we may recommend a Purge of *Rhubarb* among the best and safest of the Kind.

Physicians in former Times avoided the best evacuating Medicine, when it was more likely to destroy (or in the modern Cant) to carry off the Sick than his Disease; and therefore either contented themselves with a Purge of *Milk*; or, which was very common, to give Clysters that wash the *Rectum*, and carry off the *Stimulus*, without the Sick risking any thing in their Life, and Strength. This was the Practice of all prudent Physicians in former Times. *Hippocrates*, *Galen*, *Oribasius*, *Vanaer Heyden*, Dr. *Sydenham*, and his Follower *Baglivi*, have found these safe Methods often useful. Yet many, in our Days, who bid Defiance to all Knowledge, proceed in very different Methods, as if they were willing to try the Strength of the Sick, and the Understandings of the Healthy at the same time. *Hippocrates* ^a advises us to wash the Bowels with boiled Milk. *Celsus* says, we should give Clysters of a good *Decoction* of *Barley*;

^a Lib. de Affect. pag. 523. Fœf.

or *Clysters* of *Milk*; of melted *Butter*; or of *Deer's Marrow*: *Oil-Clysters* likewise are commended; *Butter* with *Roses*, and with it *Whites* of *Eggs*, or a *Decoction* of *Linseed*. For this Purpose this *Clyster* is prescribed.

℞ *Radic. Alth.* ʒj. *Hord. mund. vel Oryzæ.* Pug. j. *Semin. Lini & Cydonior.* ā ʒj. *Psyll.* ʒʒ *Flor. Chamæm. pug.* j. *F. Decoction in Lacte vel Jusculo; & Colaturæ addatur vel Sevum, vel Albumina, &c.*

Amatus the *Portugueze* says, that the following *Clyster* is often sufficient to cure a *Dysentery*.

℞ *Decocti Hord.* lbj. *vitellor. Ovor.* Noij. *Sacch. Thomas.* ʒjʒ. *M. F. Enema.*

But the *Whey-Clysters* of *Vander-Heyden* have had the most notable good Effects of all the *Clysters* that have been administred on this Occasion. *Hippocrates*, as I lately observed, had commended *Clysters* made of *Milk*; and ^b*Galen* informs us, that drinking *Milk* was very useful to the Sick of a *Bloody Flux*; and *Vander Heyden*, City-Physician of *Ghent*, practised a *Whey* made of *Milk*,

^b De Ther. ad Pisonem.

both by the *Mouth*, and by *Clysters*, with notable Success; insomuch, that great Quantities of his *Whey* were employed against an epidemick *Dysentery*, in *Ghent*, *Brussels*, and *Antwerp*.

The Success of his *Whey* became the common Talk among Men; and he gave us an Account of it in 1643; which Account was reprinted, with Additions, 1645; and afterwards *Vander-Heyden's* Book was abridged, translated into *Latin*, and printed in *London*, 1653.

Dr. *Sydenham* recommends likewise the drinking of *Whey*, and the giving it in *Clysters*, as an excellent Remedy for the *Bloody Flux*. The *Whey* was simple, not so much as mixed with Sugar; and Dr. *Sydenham* observed, that the *Blood* wholly disappeared after four *Clysters*; and the Patient commonly sweated plentifully, being put to Bed when he had taken his Number of *Clysters*; the *Whey*, in the Doctor's Opinion, getting into the Mass of Blood. During the sweating, the sick Person is only to drink warm Milk; and the same Method is to be repeated, in case of the *Bloody Flux* returning.

Dr. *Sydenham*, on this Occasion, informs us, that Dr. *Butler*, who attended the Lord *Howard* to *Tetuan*, cured many of the *En-*

* Prax. pag. 191. Edit. Lond. 1685.

voy's Retinue, and many of the *Moors* this Way, without either of these Physicians being acquainted with the Practice of the other. And now we may charitably believe, that their Agreement in Practice was owing to *Vander Heyden's* Book, which had been lately published in *London*, and was the Subject of Conversation at that time.

Dr. Baglivi practised this *Whey-Method* with Success; which he, likely, learned from *Dr. Sydenham*; though we may wonder why he pretends, that this was kept a Secret among Authors, which neither *Vander Heyden*, nor *Dr. Sydenham* ever did. *Dr. Sydenham*, indeed, made his *liquid Laudanum* an Arcanum for some Years, but he never did conceal the *Whey-Practice*, so far as ever I could learn.

Herman Vander-Heyden has so good an Opinion of his Method by *Whey*, from his Experience of it, particularly in the Year 1624, that he thinks it infallible in the first four or five Days of the Disease, but honestly confesses, that it is not afterwards so much to be depended on. His Way of preparing his *Whey* is a little particular, as we may find in his ^a Book.

The next Methods for curing a *Dysentery* are by *astringent* Medicines, and by bleed-

^a Cap. iii. pag. 7.

ing : The first of these are thought to be chiefly useful in the *Cure* of a *Dysentery*; and the last not to yield to any other Method, if a *Plethora*, or an excessive great Quantity of *Blood* at any time can occasion it; and therefore we must consider, if these Methods are so generally proper and useful, that we may depend upon their Help in any Time of a *Dysentery*.

First, then, it is manifest from what is already shewn ^a, that *astringent* Medicines cannot change the stimulating Causes, and consequently, that they cannot take off the Gripping, the common Symptom of a *Diarrhœa*, and of a *Dysentery*; and as these Causes are the most common Causes of a *Dysentery*, so *astringent* Medicines are not the direct and principal Cures of that Disease; especially, so far as the *Dysentery* is produced by stimulating Causes, which are always attended with *Gripping*.

The only Use, then, of *astringent* Medicines, in the *Cure* of a *Dysentery*, is in putting a Stop to the Loss, and Effusion of Blood, after the *Gripping* is overcome, if the Blood should continue so long. This is likewise ^b manifest from the mentioned Place in this Book; for it is there shewn that the Operation of *astringent* Medicines is the thicken-

^a Sect. iii. hujus pag. 121. ^b pag. 122.

ing the common Mass of Liquors in general, or they thicken the flowing Liquor particularly, at the Place of its Efflux; and thus they put a Stop to the farther Discharge of that Liquor. Thus we become apprized of the most proper and effectual Use of *astringent* Medicines, and when they become improper; *b. e.* we know the best Use and Effects of astringent Medicines, and how to avoid the putting them to a wrong and an improper Use. This Account explains fully whatever has been observed in the Practice of a *Dysentery*, through every Age of Physick; and therefore I proceed to relate some of the most recommended Astringents, and these both simple and compounded.

The Roots of Tormentil, Comfrey, Plantain, Water-Lillies, Sorrel, Mallow, Dropwort and Pæony; which last is highly commended by *Galen* ^a.

Dioscorides ^b extols the Leaves of *Plantain, Knot-Grass, Cadweed*, the Leaves of *Willow-Herb*, especially its Juice, given by way of a Clyster. Leaves of *Oak* are esteemed, as also *Sanicle, Golden-rod*, common *Winter-green*, common creeping *Mouse-ear, Agrimony, Tway-blade, Mountain Crowfoot, Cranes-bill, Periwinkle, &c.*

^a De simpl. Medic. Facult. lib. vi. ^b Lib. ii. cap. xxxvii.

Foreſtus tells us, that he cured one ill of a *Dysentery* with *Quinces*, and *Medlars*, after the giving many other excellent Medicines; and to which the Diſeaſe would not ſubmit. *Cornels*, *Sloes*, and the Fruit of the *Wayfar-ing-tree*, &c. have done great Service to the Sick of a *Dysentery*.

Frankincenſe, *Maſtick*, *Nutmegs*, *Acorns*, *Beans*, *Earth* from *Lemnos*, *Bole Armoniack*, *Bloodſtone*, *Saphir*, *Saffron*, *Hartſhorn*, *Steel*, *Spa-waters*, &c. are in the greateſt Eſteem among *Physicians*.

Nothing is more recommended than the *Seed* of *Creſſes*, *Naſturtium Myriophyllum*, of that Pattern of Botanists, *Dr. Morison*. *Simon Pauli* likewiſe informs us of very great Cures done by *Thlapſi-ſeed*, or the *Seed* of the narrow-leaved *Wild-creſs*, given by the Surgeons in a *German Army*. I have tried theſe Seeds, but without the Succeſs *Simon Pauli* had found. I have given half a *Dram* of it for one Doſe, and I find the Sick ſpit plentifully for two or three Hours after taking it; but no Degree of Abatement in the Violence of the *Dysentery*.

It is chiefly to theſe ſimple Medicines the larger Compoſitions are owing, and which are found in great Numbers among Authors, and out of which any Phyſician may frame as numerous Compoſitions, as are at this time to be found in *Strother's*, or any other

modern *Receipt-Books*. But as this should be wasting time to rear Quacks, I chuse rather to relate some of the most approved Forms, from the best, and some of the most experienced Physicians.

Hippocrates ^a recommends the following Form.

℞ *Fabarum purarum Quadrantem & Rubie Surculos tritos. Admisceto, & ex pingui aliquo delingendum porrigito.*

^b *Galen* informs us, that he has made Use successfully of these *Lozenges*.

℞ *Gallæ, Fructus Ericæ, Opii, singulorum ʒ℔. Cum Aqua redigito in Pastillos duorum Obolorum. Dato ex Aquâ aut Vino.*

This I have known made Use of with Success which is a Composition in *Galen*.

℞ *Vini Falerni sextar. vj. Mell. ℔vj. Conquito simul ad multam Spissitudinem Utere pleno Cochleario : delingendum dato.*

^a Lib. de Acutis. secundum locos.

^b Lib. ix. de Comp. Medicam. secundum locos.

While I speak of the Compositions of ancient Physicians, we may observe, that they made Use of *Quicklime*, *Sandarach*, *Auripigmentum*, and the like corrosive and *escharotick* Medicines in *Clysters*; which are not in Use at present, and cannot be of any Use in curing a *Dysentery*, however useful they may prove in some other Diseases of the *Guts*, that have sometimes attended a *Dysentery*; but are not, at present, under our Consideration.

But to proceed; *Aetius* has this notable Observation, which might give an Occasion to *Helvetius* to make the Medicine he commends in his Book, *Sur la perte de sang. Alumen liquidum*, says *Aetius*, *tritum cum Ovo absorbendum præbe*, & *rursus aquâ calidâ dilutum bibendum præbe*; & *admiraberis. Job. Agricola* likewise mentions *Allum*, and its *Sugar*, for the Cure of a *Dysentery*. The learned *Ludov. Mercatus* commends this *Form*.

℞ *Acaciæ. Hypocistid. Carn. Cydonior. Sumach, Gallar. ā ʒj. Coral. rub. usti & Aquâ Rosar. loti ʒjss. Opii ʒj. Cinnamonomi, Cyperi. ā Div. Syr. de Ros. siccis q. s. M. F. Massa, quæ in Pil. formetur. Exhibeatur ʒj.*

The great *Eustach. Rudius* esteems this
Electuary. † ℞ *Croci,*

℞ *Croci, Casti, Castorei, Asari, Semin. Hyosciami, Opii, Styracis* ā ʒj. excipe *Melle, & utere; Fabæ Ægyptiacæ Magnitudinem præbendo.*

Galen tells us^a, that an *Egg* boiled hard in *Vinegar* cures a *Dysentery*. *Oribasius* recommends the same Cure after him, and *Van-Helmont* is much in the Praises of this Practice. It seems to have done Good, because it is still much depended on among People of different Countries.

This^b Powder has been used by *Hercules Saxonia*.

℞ *Offis Sepiæ usti & pulverisati* ʒij. *Spong. pice imbut. & in Ollula ad Ciner. combust.* *Cort. Mororum induratarum, ablata Pellicula interiore, pulver. ā ʒj.* *Margarit. pptar. Boli Armeni ā ʒj.* *F. pulvis, cujus ʒj. in Liquore convenienti capiatur.*

Acorns are highly commended by *Christopherus Engelius*, who assures us, that there is not a more immediate and certain Cure for a *Dysentery*, and every other *Flux* of *Blood*, than *Acorns*.

^a De simpl. Medic. facult. Sp. 93. ^b Prax. p. 2. cap. 19.

Vallesius ^a informs us, that white Wax put into the Middle of a *Pear*, and roasted with it, is an excellent Remedy for a *Dysentery*; as also *Gum-Arabick* and Pitch, especially if a *Diarrhœa* preceded the *Dysentery*. To this Purpose Mr. *Boyle* very particularly recommends the making *Turpentine* into Pills with *Sugar*; in which he mixes a small Quantity of *Mercurius dulcis*. He says, that it is an excellent Medicine for a *Dysentery*; which Dr. *Pitcairn* valued so much, that he communicated it as a Secret among his Friends.

Borellus saw one cured in a very little Time, as by a Miracle, with a Draught of *Water*, wherein *Cork* had been boiled. *Riverius* tells us of a like Cure by *Cork* in a Powder.

Th. Bartholinus ^b informs us, that he cured many of his Countrymen with half a Pint of *Ale*, wherein the Tops of *Wormwood* and white *Salt* were boiled; but in the last Spoonful was the Powder of one *Nutmeg*. This Experiment makes the Cure of *Themison* in *Celsus* to be more readily believed.

Sylvius de la Boe ^c recommends this Decoction, when an Ulcer is supposed to be in the *small Guts*.

^a Lib. iii. Obs. iv. ^b Cent. 2. Hist. 65. ^c Lib. i. prax. cap. 13. N. 52.

℞ *Radic. Consolidæ saracen. Folior. Pyrolæ, Alchimillæ. Hederæ terrestr. Saniculae maris, Summitatum Hyperici Rasuræ C. C. Coq. in Aq. Ferrar. Colaturæ add. Syr. Althææ Fernel. & Aquam Cinnamomi, addito Balsamo Sulphuris anisato, vel cum Succini Oleo parato ad guttas aliquot.*

The Honourable Mr. Boyle relates, in his Book of the Usefulness of experimental Philosophy, that one was cured by the *Smoak* of *Ginger* taken up by the *Anus*.

However useful these two Remedies may be in *Ulcers* of the *Guts*, yet they will prove of very little use in the Cure of a *Dysentery*, which is very rarely attended with an *Ulcer*. And therefore I will only add a Form or two more of these Medicines that may be truly useful in the Cure of a *Dysentery*.

Lazarus Riverius commends the following *Electuary*.

℞ *Conserv. Radic Cichor. ℥j. veterum Rosarum rubrarum ℥ss. Pulpæ Passular. Corinthiacarum ℥vj. Croci Martis ℥j Coral. rub. ppti, Rasuræ Eboris & C. C. ā ℔j. cum Syrupō de Rosis siccis F. Opjata; addendo Spiritus Vitrioli gr. x.*
De

De quâ capiat Castaneæ Magnitudinem tribus, ante pastum, horis.

The same excellent Practitioner values this *Opiate*, or *Electuary*.

℞ *Passular. Corinthiac. ℥℥. Coq. ad Pulvis consistentiam in Vino veteri. Transfundantur Setaceo, & adde Corticis Citri conditi pistati ℥℥. pulver. Electri, Triasantal. & Diamargarit. frigid. ā ʒj. Coral. rub. ppti & Ros. rubrar. ā ʒvj Jecor. Lupi ppti ʒiij. F. Opiata.*

Besides the Medicines inwardly given, and those thrown into the Body by Clysters, Authors have Forms of Medicines they apply to the Belly; which are often useful. Such is the Application of ^a *Balthas. Brunnerus*.

℞ *Radic. Tormentillæ, Micæ Panis ā q. s. Coq. in Vino, vel Aceto, usquedum F. Pulticula. Hâc inunge Gossypium linteum Ventri applicandum.*

The Medicines hitherto related being formerly recommended in the Cure of a *Diarrhæa*; we may again observe, that the

^a *Consil. Med. 50.*

Doctrine of that Disease comprehends, in general, every thing that can be said of the *Dysentery*. The remaining Method by *bleeding*, seems alone to be a particular Help for the *Dysentery*; which is therefore proper to be considered.

If we consider then, that *Gripping* is the most constant Symptom of a *Dysentery*; and that the *Gripping* is produced by *stimulating* Causes; it is very manifest, that *bleeding* cannot cure a *Dysentery* produced, and made by a *Stimulus*. Moreover, as the *Stimulus* is the most general Cause of a *Dysentery*, so *bleeding* cannot be generally the Cure of it.

Among all the great Effects of *bleeding*, there is not any of them, besides the Power it sometimes has in making a *Revulsion*, and in changing the *Coherence* of Blood, whereby *bleeding* can any ways be useful in a *Dysentery*. If a *Plethora*, or a Superfluity of Blood, was often the Cause of a *Dysentery*, *bleeding* should not only lessen the superfluous Quantity, in Proportion to what is let out of the Veins, but by the *Secretions* consequent thereupon. But as neither of these commonly concur in a *Dysentery*, *bleeding* is very rarely the Cure of a *Dysentery*; as we find its Success very rarely mentioned, and observed.

The Case of *Hippocrates*, concerning the Wife of *Epicharmus*, may be no more than
what

what happens commonly to *Women* before their Labour, and even before they have their monthly *Courses*; for they are then *griped* and have loose Stools; both which go off with their Labour, and the first Show of the other. This Observation, therefore, cannot prove any Foundation for the Practice of bleeding in Cases of a *Dysentery*.

The Cases of *Aetius* and *Trallianus* happen when *Fluidity* is acquired to the *Blood* by *bleeding*; but they who know the Circumstances and State of the *Blood*, when the *Blood* is rendered more fluid by *bleeding*, know likewise, that they seldom meet in a *Dysentery*; and, consequently, that *bleeding* is seldom its Cure. Moreover, it may happen, that one Cause may produce the Discharge of *Blood* into the *Guts*, when some other general Cause of a *Loosness* occasions the loose Stools; so that the *Blood* may cease to be in the *Stools*, while the *Loosness* continues; or, that the *Dysentery* may be turned into a *Diarrhæa* by the *bleeding*, which could not be if they had been both owing to any one Cause. Besides, if we suppose the *bleeding* to have been above the *Heart*, and thereby the Discharge by the *bleeding* to be quicker than the Discharge of Blood at the small Emissaries of the *Guts*; or, that there has been a *Revulsion* by *bleeding*; in that Case the Discharge of Blood
into

into the *Guts* may cease in time of the *bleeding*, and very suddenly.

This is truly the surprizing Case of *Amatus* the *Portuguese*, who tells us, that a candid and honest Physician was desired to visit a Person, who had been long ill of a *Dysentery*; for it had continued thirty Days with a *Fever*, and great Violence. This Physician had his Patient bled at the *Basilick Vein* in the right *Arm*. Listen, says *Amatus*, to the surprizing Event; immediately, and it is wonderful! the *Blood* ceased, but the *Loosness* continued.

Having thus accounted for these particular Cases, we may conclude, from what has been said, that *bleeding* cannot be a general Cure of a *Dysentery*; which is likewise the Observation of all Physicians. However, we are now taught when we may safely attempt to cure a *Dysentery* by *bleeding*; and *Rondeletius* says, they that order *bleeding* in a *Dysentery*, do it often without Judgment, or any Benefit to the Sick; because the Sick are sufficiently weakened by the great Loss of *Blood* and *Spirits*. *Vander-Heyden* is of the same Opinion with *Rondeletius*; but endeavours to shew the Cases and Circumstances of a *Dysentery*, when *bleeding* may be attempted; but with little Success. These Times are now discovered, and I therefore

fore proceed to give the *prognostick* Signs of the Curableness of a *Dysentery*.



CHAP. XV.

The Prognosticks of a DYSENTERY, from the Nature and Practice of the Disease.



Prognosticks taken from the *Nature* and *Causes* of a *Dysentery* regard either the *Gripping*, the *Stimulus*, or the Discharge of Blood. The *Prognosticks* drawn from the two first, the *Gripping*, viz. from stimulating *Causes*, are already established in the fifth Chapter of this Book, and with very little Variation, may be aptly applied to the *Dysentery*. Thus we may easily understand the *Prognosticks* made of a *Dysentery*, by the great *Hippocrates*, * *Every Dysentery is dangerous that begins with a Fever, and in which we perceive a great Variety of Excrements.*

* Lib. ii. prædictor. Sect. ii.

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As this *Prognostick* of *Corn. Celsus*, taken from that of *Hippocrates*, and continued from his Book *περὶ πρῶτον* ^b. *Dejectionibus quoque si Febris accessit, si inflammatio Fecinoris, aut Præcordiorum, aut Veniris, si immodica Sitis, si longius Tempus, si Alvus varia, si cum Dolore est, etiam Mortis periculum subest; maximeque si, inter hæc, Tormina vetera esse cæperunt.*

The *Prognosticks* drawn from the Considerations of the *Blood* of a *Dysentery*, are not found among Authors; however terrible that Symptom has been, both to the Patients, and their Physicians: So that the *Blood* and the devouring Ulcers, so frightful in Physick Books, are cured insensibly by the Methods of a *Diarrhæa*, that was reputed a more safe Distemper, and most easily cured.

It were easy to draw such *Prognosticks* as respect the *Blood* of a *Dysentery*: But as I have not made any great Account of that terrible Symptom, in my Book; so in Practice I will make it appear, that a *Dysentery* is a Disease that submits to the Cure of the Species of a *Diarrhæa* most easily to be cured.

OBSERVATION I.

The first History I chuse to give, is of one cured of a *Dysentery* by *Whey-Clysters*, in

^b Lib. ii. cap. viii.

1693. It was then that Mr. *James Burnet* had *loose* and bloody *Stools*; he was *griped*, and become very lean by its continuing; he had a Fever, and no Desire to eat.

This Gentleman had been under the Direction of several Physicians, and all of them pressing his Cure with astringent Medicines, he took a great Variety of Medicines of that Kind.

I proposed the curing him with *Whey-Clysters*; but that Method was represented as a rash Attempt in a young Physician, and that nothing was so dangerous as any Kind of Clyster in Cases of a *Bloody Flux*. It was in vain to urge the common Use of Clysters on such Occasions, and the Authority of Dr. *Sydenham* for a *Whey-Clyster*, the People had conceived so great an Opinion of the Honesty, as well as of the Skill of their Physician, that they could not imagine he would betray them in so material an Article as Life is; and therefore as I could not be suffered to do him Good, I wished them better Success, and bid them farewell.

After some Days, the Person growing still worse, I was again desired to visit him, when I ordered the *Whey-Clysters*, acquainting the Family before-hand, that this was neither a new, nor a dangerous Method; but a Method that had been found very beneficial on the like Occasion. Four Clysters were got

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ready, and were given successively, one always as the former was thrown out of the *Guts*. He was put to Bed after voiding the fourth *Clyster*, and drank nothing but new Milk, till I visited him next Day. He sweat plentifully, but had no bloody Stool after the first *Clyster*. His *Gripping* went off, and his *Loosness* entirely ceased in twenty four Hours. Thus impending Death was prevented by this easy Method, and the sick Person, in some Weeks, recovered his Strength. I, lastly, with Physicians would shew some grateful Faithfulness to their Patients in Return of all the good Opinion and Esteem they commonly declare for them.

OBSERVATION II.

Captain *Braxton* was taken ill of a *Dysentery* about the Time Colonel *Gibson's* Regiment left *Newfoundland*. He was ill during the Voyage, and left the *Fleet* off *Plymouth*, where the Captain was put ashore. He took many Medicines from the Physicians of the mentioned Place, but without any Success. And therefore leaving *Plymouth*, he came to *London*, and took Advice of the late learned Dr. *Lister*, and of some other Physicians. He took *Ipecacuanha*, and some of the Medicines related in this Book.

After

After two Months, I was desired to visit him. I found that he never had fewer Stools, in twenty four Hours, than twenty. His Belly was much swelled through the pertinacious Practice of *Binding* Medicines, and perhaps by the long continuing of the *Dysentery*. He had a great Drought, he was feverish, and had no Desire to Food. His *Gripping*, and frequent going to Stool broke his Rest.

As it was early in the Morning that I made him my first Visit, I ordered him to take the following Powder immediately.

℞ *Pulv. Radic. Rhabarb. electi* ℥j.
Cortic. Cinnamomi Gr. x. M. F. *Pulvis quantocyus exhibendus.*

I saw him in the Evening, and I found his Physick did not give him more Stools than he commonly had before he took it. His *Gripping* was considerably abated. I ordered him a Dose of my *Electuary* for curing *Fluxes*, which he took at Bed-time: But he was under great Despair, when I visited him next Morning; for he had many Stools in the Night, and would not take any Thing till the Evening, Tho' the Numbers of his Stools were greater, yet he had no Blood with them; his Belly fell of the Swelling; he was not griped, and his Stools

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were more cohering, and of a better Consistence. That Evening he took another Dose of my *Electuary*, and a second the following Morning. He slept well that Night, and had one Stool only, and that of a natural Consistence; he had another such Stool next Day, and was cured.

He took a Dose of the *Electuary* at Bed-time, for two Nights more. He drank an Hour after the *Bolus*; and for all his Drink, the White-Drink thus prepared.

℞ *Decocti albi* ℥i℥. *Aq. Cinnamomi hor-*
deatae ℥iij. *Sacchari albissimi* ℥iij. *M.*
& bibat tepidè ℥vj. *horæ intervallo ab*
assumpto Bolo.

He took a small Medicine of another Kind, for a Week, to prevent his relapsing, which likewise proved effectual.

Sir *John Gibson's* Regiment was plentifully provided with my Medicine, when they went upon the mentioned Expedition to *Newfoundland*; but *Dysenteries* were then so common in the Regiment, that their Surgeon, Mr. *Heart*, (who deservedly must be reckoned in the first Rank of that Order of Men) had administered their Stock with all desirable Success, excepting about a Quarter of a Pound that was reserved for the Officers, but what Captain
Braxton

Braxton had not of, having been in a distant Ship, and Mr. *Heart* was not made acquainted with his Condition.

OBSERVATION III.

When I was at *Epsom* in 1698, I was desired to visit Mrs. *Cryer*, who came from *Barbadoes*, to be cured of a *Dysentery*. She first went to *Antegoa*, hoping to find some of my *Electuary*, with which the Generals *Codringtons*, Father and Son, were commonly provided. But their Stock being expended, she proceeded to *England* for her Cure. She fell into the Hands of Sir *Richard Blackmore*, and some other Physicians in the City, who prescribed many Medicines for her; but all their Means proving ineffectual, she was sent to *Epsom* to drink the *Waters*, which were like rather to carry her off, than her Disease. She was in that low Condition, and her *Dysentery* was so strong, as gave me small Hopes of curing her. Having, then, declared my Fears to her Friends, and promising to do what I thought most likely to serve her, under her desperate Circumstances, I prescribed her this Clyster.

℞ *Decocti Commun. & Carminativi* ℥vij.
Injiciatur mane Clyster.

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When the *Clyster* came off, she took a Dose of my Medicine for curing the *Fluxes*, at Bed-time, and a second next Morning, without drinking after it for an Hour: But as she was continually fainting, I ordered her this Cordial, to be taken as often as she found her self faint.

℞ *Aq. Ulmar. Puleg. Cerasor. nigror. ā ʒij. Bryon. Compos. ʒjss. Tinct. Croci Castor. Spir. Sal. Armon. ā Gutt. xxx. Syr. de Rosis Siccis ʒj. M. F. Julapium. Hujus accipiat cochlear. iv. vel. v. in Fatiscientiis.*

I found, next Morning, that her *Stools* were fewer, and without any *Blood*. She continued all that Day to her *Cordial* and *White-Drink*, and that Night she took another Dose of my *Electuary*. In three Days she was rid of her *Dysentery*; but she was so weak, and had that Aversion to all Manner of Food, that I still despaired of her living. However I recommended to her the drinking of the *White-Drink*, and to take Nourishment frequently; and to my great Admiration, I saw her in *London*, well recovered in two Months.

OBSER-

OBSERVATION IV.

Mr. *Malthus*, now one of the six Clarks (Son of that worthy *Apothecary*, whom Dr. *Sydenham* made more generally known) had been many Months ill of a *Dysentery*, and was reduced to that Extremity, that no Check could be given it, but by a Grain of *Opium* every six Hours. He was about nine Years old. I was desired to visit him *October 27th*, 1701. I gave him my Medicine after a *Clyster* for washing and comforting his Bowels. The *Youth* being very weak, and tired with Medicines, took my Medicine dissolved in *White-Drink*; but two Doses had no Effect upon him by next Day. I therefore persuaded the indulgent Father to press his only Son, to take the Medicine as it was, in *Electuary*; which being done with Tears in both their Eyes, the Medicine took Place, and he recovered so well by the first of *November*, that he was out of Bed by ten that Morning, when I found him in perfect Health; and with him Sir *Edw. Hans*, who had been his Physician.

OBSERVATION V.

That I may shew the great Extremity the Sick

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Sick may be reduced to, and yet receive a Cure, I will finish with this Observation, which we may find as full of extraordinary Incidents, as can well be found. The Lady *Belling* was so ill of a *Dysentery*, that she was left by her Physicains; she having no Pulse, and (as the Physicians conjectured) that her *Guts* were gangrened. I was sent for, when she was in this Condition. I could not indeed feel any Pulse; but her *Dysentery* still made Head, which was not possible if her *Guts* had begun to *gangrene*. In this desperate Condition, I told her Son, Mr. *Arundel*, that I could hardly think my *Lady* could live till Morning, she was so very far exhausted. However, she being one of the most bountiful Dispensers to poor Families, I would attempt her Cure, tho' I scarcely thought it possible.

At six, then, in the Evening, *November 30th*, she had this Clyster.

℞ *Baccar. Juniperi contusar. ʒiʒ. Flor Chamæmeli M. j. Bulliant in aq. Commun. ʒx. ad vj. circiter. Colaturæ adde dimidium Ovi Vitelli, Ol. chymici Juniperi ʒj. F. Enema.*

She kept the *Clyster* about a Quarter of an Hour, and then took a Dose of my *Electuary*, and an Hour after that, a Draught of

of *White-Drink*, as I commonly prescribe it.

As this *Lady* was in this Extremity, I was willing to know the Success of this first Administration, before I proceeded ; and therefore I desired to know how my Patient was about ten or eleven of the Clock. It was then I was told by her *House-keeper* that her Stools had abated, and that there came no more Blood in them. Thus, being encouraged, I sent a *Bolus* to be taken immediately, and another for next Morning.

In the Morning, I found that she had not above a Stool in the Night ; that her Pulse was up, and strong to her Condition ; that she had eat two poach'd Eggs in the Night ; but that she had not taken her Morning Bolus, and was resolved not to take any more Medicines.

This surprized me, and all her Family. I told her, that she would certainly recover ; whereas I did scarcely believe it possible for her to live till this Morning. Her Children begged her on their Knees to perfect her Recovery. I pressed her again, and assured her of her doing well ; and that she would live for the Support of many poor Families she maintained, if she despised living : But all in vain, for she declared she would not take any more Medicines.

However,

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However, that Afternoon she sent for Sir *Richard Blackmore*, and the late Dr. *Cade* again, who were her Physicians. She kept her Ground till *Wednesday*, the second of *December*, and died on the *Saturday* following.

Great Inquiry was made into this unaccountable Resolution. Mrs. *Harrison*, who sat up with her that Night, declared, that the *Apothecary*, Mr. *Tobin*, was the only Person that saw her; that he betwixt eleven and twelve whispered with her Ladyship, and that she, Mrs. *Harrison*, withdrew from the Bed-Side, so that she did not know what passed, but it was believed, that he dissuaded her from proceeding with her Cure with me, believing that what was already done would establish his Friends with her.

This *Lady* was a good Customer to him, for her Family, and the Poor she supported; but nothing could make him just to her. For it appears by a Lady of Honour and Quality, that he did dissuade her, and by a very strange Argument, tho' one not unsuitable to her. He told her, that her Recovery was not *natural*; it was above the Power of any Medicine; and that she was cured by a Charm. Now as she was of a Religion that teaches the Unlawfulness of Cures by Amulets and Charms, and believing in the deep Knowledge, and *Catholic*
lick

lick Honesty of her *Apothecary*, (for this Cure being of that Kind) died a *Martyr* to a *Knave*.

OBSERVATION VI.

In the foregoing Observations, I have endeavoured to shew the *Curableness* of a *Dysentery*, while *Life* continues. In this Observation, we have the Case of a *Dysentery* very surprizing and desperate.

A poor Man, near *Aldgate*, was recommended to me by the *Dispensary*-Physicians. He was so ill of a *Dysentery*, that he could not come to my House; but a Woman came for my Advice, and brought with her a large Gally-pot full of a slimy Substance, in Appearance; but what I found to be a very large Piece of the *Villous Coat* of the *Rectum*. It was a Case, at that Time, new to me, and so desperate, that I gave the Woman half a Pound of my *Electuary*, with Directions for the taking it. The Man recovered, and lived some Years afterwards.

Sylvius ^a mentions a like Case; but thinks it incurable: But it is not so, as I have since experienced on another Occasion.

Galen ^b had seen a Discharge of the like Substance, and proves from it, the *Dysente-*

^a Lib. i. Prax. cap. xvi. & Tract. v. Append. ^b Lib. i. de loc. affect. & lib. iv. de Usu partium.

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ry having its Seat in the great *Guts*. He did not know the true State of the Structure of the *Guts*, that made his Argument of great Force. He saw the like Discharge in several other Diseases, and he took it to be the *Guts* themselves, that were putrified, *corrupted, and voided by Stool*. Yet the Sick suffered not by the Loss.

This Evacuation of the *Villous Coat* has been ^a observed by *Herman Vander-Heyden*. *Veu que l'acre ou salée humeur va de plus en plus corrodant & souvent penetrant le Boyau jusques à la separation des pellures, curieusement remarqué; nommement en la dejection d'un Gentilhomme de Gand, &c.*

I own, I was surprized with the Sight of this Coat, nor did I believe it so easily cured, as I find it is; and I am persuaded this Account will be very agreeable to every candid Physician to whom the like Case does occur.

The CONCLUSION.

Having in this Account of a Loosness, not only explained a Loosness in general, but from the *Diagnostick* Signs of every particular *Loosness*, I have discovered the *Nature* of every particular *Loosness*; and

^a Chap. v. pag. 12. Appendix.

from

from their *Nature* I have fixed and ascertained the *Causes* of every particular *Loosness*; having likewise shewn the *Curableness* and *Incurableness* of every particular *Loosness*, from the Discovery I have made of their *Nature* and *Causes*; as also the most direct, and proper Methods of curing them; it must be granted, that the *curative* Branch of *Physick* is no longer to be reputed *uncertain, false*, and the mere *Imposition* of some Men, that make it their chief Study to deceive others, who, *viz.* only make Use of bare *Conjectures* and weak *Arguments* in discovering the Nature of Diseases; and that *Physicians* do no longer make Use of fortuitous and accidental *Remedies*, or of *Medicines* unknown to them; and lastly, that *Physicians* are no longer mistaken either in *curing* Diseases, or in *judging* of the Probability of curing them; as the Patrons of the *preservative* Branch of *Physick* by *Exercise*, and without Medicines, have charged the curative Branch. And what has now been performed in Regard to a *Loosness*, may be performed on every other Disease.



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APPENDIX.



IN the Method of the foregoing Book, I premised an Account of our going naturally to Stool, in order to a better Understanding why we go to Stool preternaturally; and for finding the Remedies, that are proper to cure this extraordinary purging. We discovered at the same Time, that *Purging by Medicines*, or our going to Stool *artificially*, has often occasioned the preternatural Evacuation, both by creating a distinct Species of the Disease, or continuing it by being improperly dosed, when purging Medicines were administred, in the most proper Time of the Disease. It has therefore been thought necessary, to bring at this Time, for publick Use, what I performed

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some Years ago, when I rendred the Doses of *purging* and *vomiting* Medicines positive, and certain in all Cases; which Method had only been considered by the more Curious, in the *Philosophical Transactions* of the *Royal Society*.

But before we proceed, it may be proper to acquaint my Readers, with what induced me to frame and publish the following *Problem*. Ingenious Men very commonly complained, that Physicians did not improve the Practice of Physick by their late useful Discoveries, and acute Speculations; that the great Discoveries made by *Sanctorius* in his *statical Physick*; that the great Discoveries of the Circulation of the Blood made by Dr. *Harvey*, and the Doctrine of Pulses founded upon this, and the Structure of the Arteries, have never been applied, for improving the Practice of Physick; insomuch, that these Improvements, were rather thought Embellishments and Ornaments of Physick, than that they could be of any particular Service to Physicians.

Every Physician, and every other Person, who has read the *statical Physick* of *Sanctorius*, readily applaud his Experiments. Physicians, more particularly, subscribe to the Truth of his first *Aphorism*, and acknowledge it for a proper and true Scheme for preserving

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serving Health, and for practising for the Cure of Diseases. ^a *Hippocrates* had long ago told us in general, what *Sanctorius* has more particularly informed us of. Neither was ^b *Hippocrates* ignorant of the great Diversity of the Quantity of perspiring Matter, *Sanctorius* apprises us of in his seventh *Aphorism*; all which Difficulties render his excellent Doctrine of no Use to the Sick, however practicable it had been found in the Balance and Scales.

And therefore I resolved to shew, how these excellent Discoveries might be applied in every Part of Physick, for the Want whereof, the most easy and most obvious Parts of Physick had so very much suffered: For this Purpose I made Choice of *purging* and *vomiting* Medicines; Medicines, many thousands of times administred every Day, from the Beginning of Physick; whose Operations are far more constant, and conspicuous, than the Operations of any other Medicines; and yet we find, that this infinite Number of Experiences, and Observations, had not brought forth any suitable Fruits and Effects to Physicians; for from all those Observations, Physicians did not know the common Doses, that were proper for one Man with another, and far less could they compare the respective

^a Lib. de Morbo Sacro.

^b Lib. 3. de Dietâ Sect. 3.

Strengths of different purging Medicines. As for the Doses of purging Medicines, that are proper to Men, below the State of Manhood; they are as little to be found in Books of Physick, as are the Doses of purging Medicines, that ought to be adapted to the declining Years of Men; or as these Doses are to purge Men, in the great Variety that occurs in the Course of Diseases.

Nothing then, in my Opinion, could be more useful, no Improvement could be more conspicuous and distinguishing, than that which rendered the Practice of Medicines (of all the most commonly administred) safe and useful; upon them then I fixed, that the Difficulties hitherto unsurmountable, and that had resisted the constant Observation of all former Ages, should become the subject Matter of my Inquiry; which I sent Abroad in the following *Problem*, allowing to the learned Physicians in *Europe* a Year for solving it; as appears from the Problem it self, as it was published in the *Transactions*; and which was proposed, *March* 17, 1704-5.

* *Philos. Transact.* N^o 293. pag. 1753.

Problema Medicinæ Cultoribus sol-
vendum proponit GUILIELMUS
COCKBURN, M. D. R.S.S.

*EX*perientiâ constat quam diversæ sint Me-
dicamentorum Operationes pro Tempera-
mentorum, Ætatum, ac ejusdem Ætatis di-
versi statûs varietate. Magis vero conspicua
sunt Emeticorum & Purgantium Opera;
adeo ut quæ provectiores Ætate quam lenis-
simè purgant, Infantes obruant: quæ justâ
Cathartici Dose hodie propinamus, nimis
vel minimè nos crastino afficiunt die. Immo
ad hanc omnem diversitatem operantur tempe-
rie solummodo differentibus.

Quum igitur tam invicta sit ubiq; difficul-
tas in debita Pharmacorum evacuantium Dose
decernenda; optanda esset Methodus quâ possi-
mus eadem absq; dubio administrare.

Methodum hanc apodeicticis expediit ar-
gumentis, simul & sigillis oclusam Præsidi
nostro commisit.

Rogat tamen Medicos quoslibet, quænam
sit illa vel similis Methodus quâ sine errore
dirigamur; eorumque solutiones ad Cal. Mart.
1705-6. expectabit, quas postmodum cum
suâ publicabit.

While this Problem was locked up with the *Royal Society*, the learned Dr. *Boerhaave*, and some other eminent Physicians abroad, signified to me, the Difficulties they found in solving the Problem; while the late learned Dr. *Pitcairn* every where declared, that the Problem was not to be solved.

The *Royal Academy of Sciences* in *Paris*, found the Difficulty equally great, with the forementioned Physicians; but they, declaring the great Usefulness of the Discoveries set forth in the Problem, and that might be expected from its Solution, very honourably desired our *Royal Society* would publish this Solution, before the Time allotted for that Purpose in the Program; more especially, that there was not any Physician in *France*, that could make any step towards a Solution.

The *Royal Society* here, opened the Solution in the Beginning of *January*, and published it in their *Transactions*, in the Beginning of the following Month; which was near a quarter of a Year before the Time.

Tho' the Malice and Envy of some on this Occasion was so great, as to deter and make me resolve against making any Offers of this Kind to the *Royal Society*; yet, about four Years afterwards, I framed Tables, shewing the Practicableness of this Solution. But,
before

before I laid these Tables before the *Royal Society*, I advis'd with our worthy President, the learned Sir *Isaac Newton*, the great Honour of our Island, and whom none hath excelled in any Age, for making Discoveries in Philosophy. After he had consider'd the Tables, he was of Opinion, that they should be published in the *Philosophical Transactions*; both because of my Solution having been published in them; as also, because Physicians pretended, that my Solution was an ingenious Speculation upon an Hypothesis, but what never could be brought to Practice. But as he himself had always esteem'd my Solution, to be a perfect Solution of my Problem, and that he was now sure, that in these Tables, was fully contained, the Practice of *purging* and *vomiting* Medicines; he was not only confirm'd in his first Opinion, but thought me necessarily oblig'd to publish them in the *Transactions*.

Being therefore convinc'd, by this Declaration of a candid Friend, and of an undoubted Judge in these Matters, I submitted to his Judgment; both which Papers do now follow.





DOCTOR COCKBURN'S *Solution of his Problem for determining the proper Doses of Purging and Vomiting Medicines, in every Age of a Man, in every Constitution, in every Change of Constitution all over the World; which was proposed by him, in the Philosophical Transactions, last March.*



IN Order to determine rightly the different Doses of vomiting and purging Medicines, that are requisite according to the different Ages, and Constitutions of Men; we must, first, suppose that these Medicines do not perform their Operation, before they get into the Mass of Blood, and mix themselves with it; for we find, that if they are not nauseous, they produce no sensible Effect until such a Time as is necessary for that Purpose. *Secondly*, That their

their general Effect is the Alteration of the Temperament of the Blood, and all other circulating Liquors.

From these two Postulata we infer, that where there is the same Crasis of the Blood, the Doses of Medicines necessary to produce a determined Effect, must always be as the Quantity of Blood; for if it require a determined Dose to alter the Crasis, for Example, of a Pound of Blood to a certain Degree, it will require a double Dose to alter two Pound to the same Degree; a triple Dose will be requisite to produce the same Effect in three Pound of Blood, &c. and universally, if the Quantity of Blood b require the Dose d , the Quantity of Blood mb will require the Dose md ; for $b : d :: mb : md$.

Coroll. Since the Blood, and all other circulating Liquors of the Body may be generally estimated by the Weight of the Animal (for what we call solid Parts, are only Canals for containing those Liquors) it follows, that *ceteris paribus*, the Quantity of the Doses ought always to be proportionable to the Weight of the Body; therefore, the Dose of these Medicines to be given a Child new born is to the Dose of the same Medicines that are fit for Men of full Growth, as is the Weight of a Child to the Weight of a Man. For Instance, thirty Grains of
Pil.

Pil. Rudii is the common Dose for a Man, and the Weight of a Man, one with another, may be reputed twelve Stone, or a hundred and sixty Pound Weight; and the Weight of a new born Infant may be reputed twelve Pound: Now as a hundred and sixty, the Weight of a Man, is to twelve, the Weight of a Child; so is thirty Grains, the ordinary Dose for a Man, to two Grains and a Quarter, which is the ordinary Dose for a Child; and always the same Proportion, as the Child grows, the Doses of Physick to be given it ought to encrease, till about the Age of twenty, or twenty one, when most People come to their full Growth; after which Age, the Doses to be given continue the same till Men be past fifty, from which Time we may reckon that the Quantity and Force of the Blood does continually decrease, and the Doses of the Medicines ought to decrease in the same Proportion.

In this Method of reasoning we have supposed all Men of the same Constitution, and that their Increase, in Proportion to their Years, and their Manner of Secretions, were alike; it being necessary to consider the Thing, at first, in the most simple Manner: But because the Temperament and Constitutions of Men are very different, according to the various Crasis of their Blood,
and

and other circulating Liquors, the Quantity of the Doses will not always be exactly in the same Proportion with the Weight of the Body. This different Temperament of the Blood consists in a certain Disposition its Parts have to cohere less or more one with another, by which the Blood becomes more or less fluid, and according to the various Degrees of Cohesion, the Operation of Medicines, on the Blood, will be various. For, let us suppose two Persons with equal Quantities of Blood, but differing in Degrees of Cohesion; it is plain, that a Medicine will be easier mixt with the Blood, whose Parts are less coherent, than with that whose Parts are more firmly united together; and the Proportion of this Facility of mixing the Parts of the Medicine with the Parts of the Blood, will be always directly as the Fluidity, or reciprocally as the Tenacity of the Parts of the Blood, and the Force of the Medicine upon the Blood will be likewise in the same Proportion; and therefore, to have a Medicine act with equal Force, upon these two different Persons, the Doses to be given them must be always proportional to the Tenacity, or Thickness of their Blood; supposing the Blood in both to circulate with the same Velocity: But if the Velocity of the Blood be different, the Operation of

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the Medicines, *h. e.* the Quantity of the Secretions made by them, will be as the Velocities of the Blood; for, the Secretions made at any Gland, in a given Time, is always as the Quantity of Blood, which comes to it in that Time, *h. e.* as its Velocity. Now, *ceteris paribus*, the Velocity of the Blood is always as its Fluidity, or reciprocally as its Degree of Cohesion; and therefore, the Quantity of the Dose to be given, to produce the same Effect, must be directly as the Degree of Cohesion in the Parts of the Blood.

PROP. I.

In two Persons that have equal Quantities of Blood, which differ in Degree of Cohesion, The Quantity of the Doses of vomiting and purging Medicines, necessary to be given, in order to produce the same Effect, must be as the Square of the Degrees of Cohesion.

For where the Blood is moved with the same Velocity, the Quantity of the Dose must be as the Degrees of Cohesion, and if the Degree of Cohesion were the same, the Quantity of the Dose must be reciprocally as the Velocity; and therefore, where
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neither

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neither Cohesion, nor Velocity, are the same, the Quantity of the Dose must be in a Proportion compounded of the direct Proportion of the Degrees of Cohesion in the Parts of the Blood, and a reciprocal Proportion of its Velocity: But the reciprocal Proportion of the Blood's Velocity is equal to the direct Proportion of its Tenacity, or Degrees of Cohesion. Wherefore, the Quantity of the Dose, necessary to be given, is in a Proportion compounded of the Degrees of Cohesion, and the Degrees of Cohesion, *b. e.* the Doses to be given, are in a duplicate Proportion of the Degrees of Cohesion, or as the Squares of these Degrees. Q. E. D.

PROP. II.

The Quantity of the Doses to be given to Persons of different Quantities of Blood, and which have different Degrees of Cohesion, is as the Weights of the Persons, and the Squares of the Degrees of Cohesion in the Blood conjunctly.

For where the Degrees of Cohesion are the same, the Quantity of the Dose is as the Weight of the Person; and where the Weight of the Person is the same, the Quantity

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tity of the Dose is as the Square of the Degrees of Cohesion; and therefore, when neither remain the same, the Quantity of the Dose must be in a Proportion compounded of the Weight of the Person, and the Square of the Degrees of Cohesion. Q. E. D.

Coroll. Hence knowing the Quantity and Quality of the Blood in any Person, it is easy to determine the particular Doses necessary for either purging or vomiting him to a certain Degree. This Quality, or Temperament of the Blood, is easily determined by a skilful Physician from the Pulse, Urine, and other Secretions; and therefore a Physician, by Observation on the Doses necessary to purge Persons of a certain Constitution, may from thence determine the Doses requisite for Persons of any other Temperament, or Constitution.

Schol. What is already demonstrated would follow, in general, from the common Hypothesis of Physicians, about Purging and Vomiting; because the Disposition the Stomach and Intestins have to be stimulated is, as the mentioned Degrees of Quantity, and Cohesion of the Blood. So the Thing is evident, even upon that Supposition, though it has not the Simplicity of a Postulatum, and was omitted on that Account.

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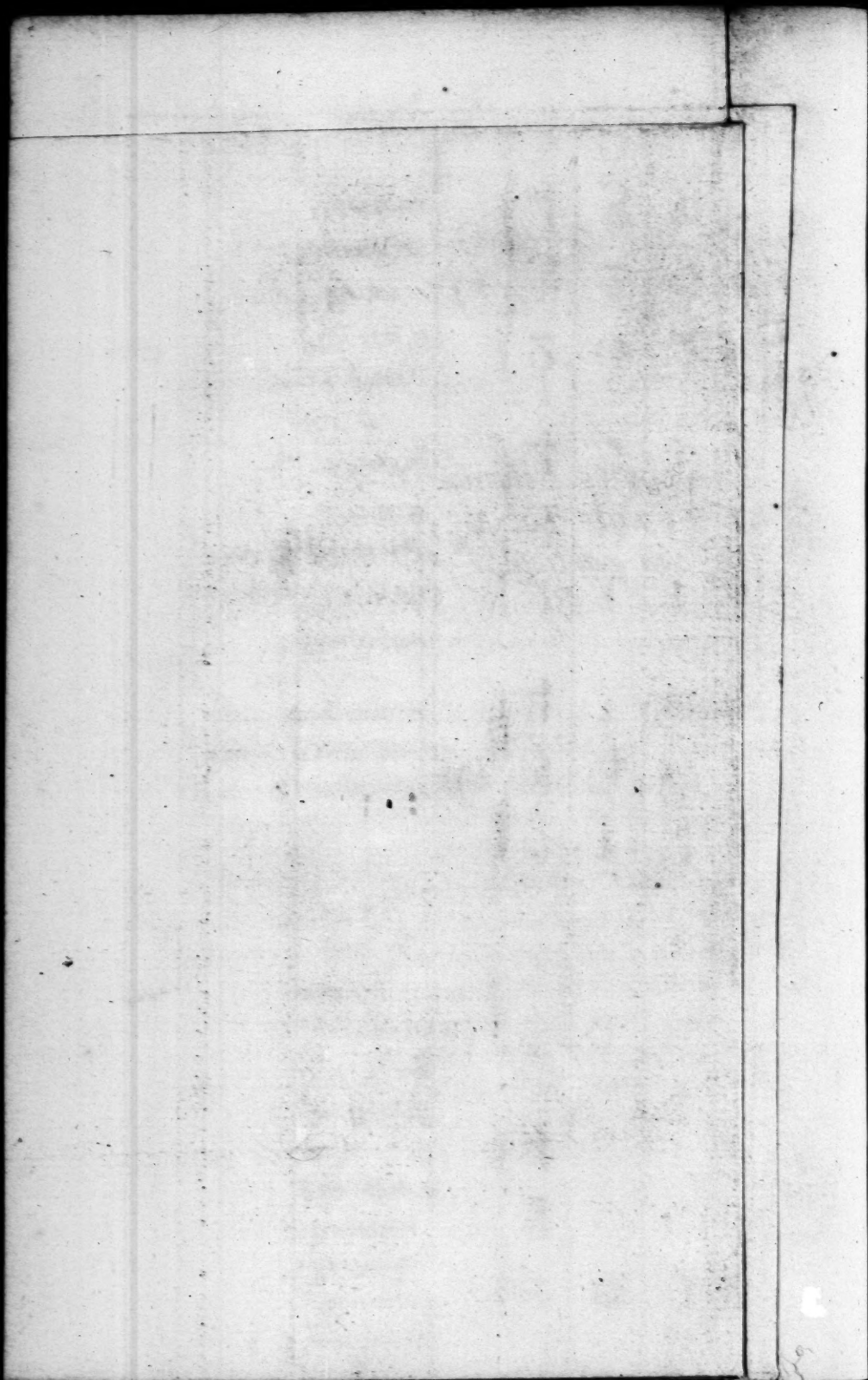
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TABLES,

Shewing the Doses of purging and vomiting Medicines according to the Solution of D^r COCKBURN'S Problem.

Medicins	Ages.	Constitutions.	Doses					
			3.	3.	Gr.			
<i>Medicins whose common Dose is ʒi.</i>	16	Cassia. Catholicon	2	3	1	13 $\frac{1}{3}$		
			3	8	0	0		
			4	14	0	13 $\frac{1}{3}$		
			9	Elect. lenitivum.	2	2	2	0
					3	6	0	0
					4	10	2	0
			6	Succus radic. Frid.	2	1	2	6 $\frac{2}{3}$
					3	4	0	0
					4	7	0	6 $\frac{2}{3}$
			3	Mann. ʒij. Emetica Vin. emeticum, seu Bened. Suc. Asari. Senecionis.	2	0	2	13 $\frac{1}{3}$
	3	2			0	0		
	4	3			1	13 $\frac{1}{3}$		
	16	Confectio Flamech.			2	1	2	6 $\frac{2}{3}$
					3	4	0	0
					4	7	0	6 $\frac{2}{3}$
	9	Elect. Caryocostin.			2	1	1	0
					3	3	0	0
					4	5	1	0
	6	Diaphanicon.			2	0	2	13 $\frac{1}{3}$
			3	2	0	0		
4			3	1	13 $\frac{1}{3}$			
3	Syrupus emeticus.	2	0	1	6 $\frac{2}{3}$			
		3	1	0	0			
		4	1	2	6 $\frac{2}{3}$			
<i>Common Dose ʒi.</i>	16	Agaricus. Aloe.	2	0	1	6 $\frac{2}{3}$		
			3	1	0	0		
			4	1	2	6 $\frac{2}{3}$		
			9	Carthamus. Ebuli sem.	2	0	1	0
					3	0	2	5
					4	1	1	0
			6	Cortex. Hermodytyli.	2	0	0	13 $\frac{1}{3}$
					3	0	1	10
					4	0	2	13 $\frac{1}{3}$
			3	Mechoacanna. Fil. Aggregativa. Coch. major. Fatida sine Quibus. Pulv. Diaseenna. Rhabarbarum. Soldanelia. Senna. Turbith.	2	0	0	6 $\frac{2}{3}$
	3	0			0	15		
	4	0			1	6 $\frac{2}{3}$		
	16	Jalappa. Juli juglandis. Lap. Lazuli.			2	0	0	13 $\frac{1}{3}$
					3	0	1	10
					4	0	2	13 $\frac{1}{3}$
	9	Armenius.			2	0	0	10
					3	0	1	2 $\frac{1}{2}$
					4	0	2	0
	6	Opoponax. Fil. Coch. minor.			2	0	0	6 $\frac{2}{3}$
			3	0	0	15		
4			0	1	6 $\frac{2}{3}$			
3	de Gut. Gamandra. Rudii. Pul. Warvicensis. Sagapenum Emet. Rad. Ipecacuana.	2	0	0	3 $\frac{1}{3}$			
		3	0	0	7 $\frac{1}{2}$			
		4	0	0	13 $\frac{1}{3}$			
<i>Common Dose ʒi.</i>	16	Resina jalappa.	2	0	0	8 $\frac{8}{9}$		
			3	0	1	0		
			4	0	1	15 $\frac{5}{9}$		
			9	Extr. rhabarbari.	2	0	0	6 $\frac{2}{3}$
					3	0	0	15
					4	0	1	6 $\frac{2}{3}$
			6	Fil. de Hermodactylis ʒij.	2	0	0	4 $\frac{4}{9}$
					3	0	0	10 $\frac{7}{9}$
					4	0	0	17 $\frac{7}{9}$
			3	puls. Cornach. ʒij.	2	0	0	2 $\frac{2}{9}$
	3	0			0	5 $\frac{8}{9}$		
	4	0			0	8 $\frac{8}{9}$		
	16	Emet. Gilla vitricoli.	2	0	0	2 $\frac{2}{3}$		
			3	0	0	6		
			4	0	0	10 $\frac{2}{3}$		
			9	Colocynthis.	2	0	0	2
					3	0	0	4 $\frac{1}{2}$
					4	0	0	8
			6	Euphorbium.	2	0	0	1 $\frac{1}{3}$
					3	0	0	3 $\frac{1}{3}$
4					0	0	5 $\frac{1}{3}$	
3			Esula Cortex.	2	0	0	1 $\frac{1}{3}$	
	3	0		0	3 $\frac{1}{3}$			
	4	0		0	5 $\frac{1}{3}$			
16	Elaterium.	2	0	0	1 $\frac{1}{3}$			
		3	0	0	3 $\frac{1}{3}$			
		4	0	0	5 $\frac{1}{3}$			
		9	Gum. Guttat.	2	0	0	1	
				3	0	0	2 $\frac{1}{4}$	
				4	0	0	4	
		6	Gran. Gnid.	2	0	0	1 $\frac{1}{3}$	
				3	0	0	3 $\frac{1}{3}$	
				4	0	0	5 $\frac{1}{3}$	
		3	Ricini sem.	2	0	0	1 $\frac{1}{3}$	
3	0			0	3 $\frac{1}{3}$			
4	0			0	5 $\frac{1}{3}$			
16	Scammon. Tr. Alhand. Emet. Croc. Ru-landi. Turbith minerale.	2	0	0	1 $\frac{1}{3}$			
		3	0	0	3 $\frac{1}{3}$			
		4	0	0	5 $\frac{1}{3}$			
		9	Emet.	2	0	0	1	
				3	0	0	2 $\frac{1}{4}$	
				4	0	0	4	
		6	Hep. Anti-mony.	2	0	0	1 $\frac{1}{3}$	
				3	0	0	3 $\frac{1}{3}$	
				4	0	0	5 $\frac{1}{3}$	
		3	vitr. Ant.	2	0	0	1	
3	0			0	2 $\frac{1}{4}$			
4	0			0	4			
16	Tart. emet. Merc. prae-per se solar. ruber. Hercules Bovij.	2	0	0	1 $\frac{1}{3}$			
		3	0	0	3 $\frac{1}{3}$			
		4	0	0	5 $\frac{1}{3}$			
		9	Emet.	2	0	0	1	
				3	0	0	2 $\frac{1}{4}$	
				4	0	0	4	
		6	Hep. Anti-mony.	2	0	0	1 $\frac{1}{3}$	
				3	0	0	3 $\frac{1}{3}$	
				4	0	0	5 $\frac{1}{3}$	
		3	vitr. Ant.	2	0	0	1	
3	0			0	2 $\frac{1}{4}$			
4	0			0	4			





The Practice of Purging and Vomiting Medicines, according to Dr. COCKBURN's Solution of his Problem, with Tables shewing their Doses in particular Ages and Constitutions. By. W. COCKBURN, M. D.



Y my Solution of the Problem Phil. Trans. No. 303.
for determining the due Doses
of purging and vomiting Medi-
cines, in all their Cases, it is ma-
nifest in general, that these Me- Postul.

dicines operate either upon the Account of
their being mixed with the Blood, or by
their stimulating the Stomach and Guts. Schol.

2. That this their Operation is more or less,
according to the Quantity and Thickness of
Blood, *b. e.* a greater Quantity, and the Cor. 1.
thickest Blood, require the greatest Doses: Prop. 1.
And 3. That when the Quantities of Blood
are the same, the Doses of purging and vo-
miting Medicines are in a duplicate Pro-
portion

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Prop. 2. portion of the Blood's Thickness. As also, that in every Case these Doses must be in a Proportion compounded of the Quantity of Blood, and those Squares of its Thickness.

Why the Doses of Medicines so hard to be found.

Now since the Operations of purgative and vomitive Medicines depend so much on the Quantity and Viscidity of the Blood, which have not been duly considered before; it is no Wonder that the Practice of Physick, in these Evacuations has been so uncertain, and that the more expert Physicians, from their most accurate Observations, could never determine the true Doses of Medicines, which alter so much according to their various Subjects they work upon; they not being acquainted with the true Method of determining either the Quantity of the Blood, or the Degrees of its Thickness.

Because Experience is equally the Foundation and Touchstone of all Reasoning in Physick, we will here submit our Solution to common Observations, and try whether every thing proposed in it, does not exactly answer Matters of Fact, and the visible Operations of Nature.

The different Effects of these Medicines upon the account of their Forms.

First then, it plainly follows, that these Medicines always purge best and most constantly in a liquid Form; because they are more easily conveyed into the Blood, and can

can stimulate more Parts, and that upon the Account of this their Fluidity; whatever may be the Way that Purges and Vomits work, or whatsoever their Nature may be. This explains very easily a very common Observation, hitherto very difficult to Physicians, about the different Operation of the same Medicine in different Forms. Why, *viz.* the Infusion of a due Quantity of a purging Medicine produces its Effects sooner and more constantly than a like Quantity of the same Medicine in a Powder, tho' still more constantly in a Powder than a Bolus, tho' still sooner and more constantly in a dry Bolus, than if it be given in Pills made into that Form with Gums that do not purge; and this Difference in purging shall even be notable, according to the Dissolubility of the Gums.

From whence it follows, that the Evacuation made by such Medicines, is in Proportion to the Quantity of those Medicines that happens to be dissolved, and not to the Quantity administered.

Secondly, That purging by Draughts is the most excellent Form, and will always have the most constant Effect.

The next Consideration is, that a certain Quantity of any purging Medicine affects us after a different Manner, according to the different Quantity and Constitution of the

*Their Effects
different, be-
cause of the
different
thickness of
Blood.*

Blood, or its Thickness, and it was shewn in the Solution, that if its Thickness were the same, the Dose should always be as its Quantity, but the Blood differing likewise in Thickness, the Doses of purging and vomiting Medicines must be augmented on Account of its Thickness. This is perfectly well confirmed by daily Experience, where we find that, People sick with a manifest Thickness of Blood, as in Dropsies, the Jaundice, &c. take far greater Doses than they did at any other Time, when they were not sick, or in that Manner.

By a further Disquisition into this Matter, we find that the Doses must not only be greater, where the Thickness of Blood is greater; but that they must be encreased in a duplicate Proportion of their Viscidity. This is evident by the Tables in *Cassia*, viz. $9 : 83 :: 4 : 33$, $1 \text{ } \mathfrak{d}$, $13 \frac{1}{3} \text{ gr.}$ and therefore *alternando* $9 : 4 :: 83 : 33$, $1 \text{ } \mathfrak{d}$, $13 \frac{1}{3} \text{ gr.}$ Therefore the Doses are as the Squares of the Constitutions. So likewise $9 : 83 :: 16 : 143$, $13 \frac{1}{3} \text{ gr.}$ and *alternando* $9 : 16 :: 83 : 143$, $13 \frac{1}{3} \text{ gr.}$ *h. e.* the Doses are as the Squares of the Constitutions.

The same is true in any other Constitution besides the mean: For Example, in the lowest and highest $4 : 16 :: 213 \frac{1}{3} \text{ gr.} : 853 \frac{1}{3}$. So that by this means we are not only led directly to a right Use of these Medicines, and

and are able to find the true Cause why the ordinary Doses produce so very different Effects in different Constitutions; but likewise, *The Quantity of Blood in any Person being given, together with the ordinary and extraordinary Effect of a Dose of a purging Medicine, the Change of that Person's Constitution, and the Nature of that Change may be determined.* A Problem.

It cannot but be a great Satisfaction to the Mind to find a Doctrine founded on a few simple Experiences leading us into the Cause of many more that are very complex'd, difficult, and obscure; which is sufficient to prove its Conformity to Nature. But my present endeavour being to rectify the common Practice of these Medicines by this Doctrine, I shall frame, by this Method, Tables of the purging and vomiting Medicines in present Use; better adapted to Experience than are hitherto to be found. This Doctrine true because conform to Nature.

The Method of framing such Tables, is by setting off the practicable Constitutions in the different Ages that I have observed to take notable Quantities of purging and vomiting Medicines; so that by comparing these Constitutions with the Ages, we have the different Doses in all those Cases, which is all that is required for a better Practice; tho' a more proper Occasion may produce a more nice and exact Division of Constitutions, How they are made.

tutions, very much to the Advantage of the Practice of Physick in all Diseases.

The Ages wherein these different Doses are taken, I find to be four; when a Man is about sixteen or twenty Years of Age, and weighs about twelve Stone, he then takes the common Dose: One of nine Years takes three Quarters of that; one of six the Half, and one of three Years, a Quarter.

Æcon.

anim. p. 51.

Biblioth. A-

natom. p.

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Tom. 2.

Moreover, it having already been shewn, that the notable healthy Constitutions are but three, as also the notable Pulses of each of these: Let then these Constitutions be as 2, 3, 4. That of the most fluid Blood as the first Number, and so on; in that Case, the Dose of any Person will be found by multiplying the common Dose for his Age, into the Square of his Constitution, and dividing by the Square of the middle Constitution. For Instance, if $\mathfrak{zj}$. *Cassia* is the common Dose, or the Dose of the middle Constitution, $\mathfrak{z}iij$. $\mathfrak{z}j$. and *gr.* $13 \frac{1}{3}$ is the Dose of the first Constitution, and $\mathfrak{zxiv}$. *gr.* $13 \frac{1}{3}$ that of the grossest or last Constitution; and so proportionably for every Medicine in all the Ages, as appears by the Tables.

This Method seems to answer so exactly, that there is not any Thing necessary besides; except a Person is more loose or coctive than ordinary (which may be known from the Patient, or otherways) it is to be reputed

*Only Ex-
ception.*

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reputed the same, 'as if he had taken an equivalent Quantity of a Medicine proper to produce these Effects. Any Physician who has considered this Case in some People, after fluxing, will allow the Justness of this Exception.

As vomiting Medicines have the same com-^{The Doses}mon Doses with those that purge, they ad-^{of vomiting}mit also of the like divided Doses; which, Medicines, therefore may be found by the same Tables. Only, as People that are more costive than ordinary, require a proportionably greater Dose of a purging Medicine; so they require their Dose of a vomiting Medicine to be considerably less, as is very well known in hot Countries.

But it must be observed, that in the Ta-^{Notes 1.}bles, *Age* stands instead of *Quantity of Blood*; because they encrease pretty equally, and it makes the Practice more easy to such as are not accustomed to Weights and Numbers.

The more Skilful are desired to observe, ^{2.}that the mean Ages, multiplied into the mean Constitutions, give Doses more nicely.

The TABLES.

Some Instances shewing the Defects of the present Practice, and how mended by the foregoing Tables.

The Doses of the foregoing Tables, arising from Calculation, agree perfectly well with

with the common Observation of the best Authors; tho' their Observation is very general and ill made, if we except the very first Steps. For Instance, Authors of all Countries, *English, Dutch, German, Italian and French*, reckon the Doses after the same Manner; whereas, if they had been observed, they must have been different as are the Constitutions of Men in the different Countries.

*Authors
copy, but do
not observe.*

II. The Defect of their Observation is manifest by the disproportioned Doses of some Medicine, their high Doses being sometimes double and sometimes triple, and more of their low Doses, which is not conformable to Nature; for, let the low Dose be what it will, the high Dose of one Medicine must always bear the same Proportion to the high Dose of another, as did the low Doses, *viz.* even in Manna, they reckon it from $\mathfrak{zj}$. commonly to $\mathfrak{z}ijj$. and $\mathfrak{z}iv$. If it is said that the first Dose is the lowest Dose that is taken by a Man of a due Age, it is neither true in Fact, nor conform to their own Way of reckoning: For Instance, Rhubarb is said to be taken from $\mathfrak{zj}$. to $\mathfrak{z}ij$. No Body will say that this is the lowest Dose taken by a Man of a due Age, as formerly; because it is not in Fact true, nor that the high natural Dose is $\mathfrak{z}\beta$; for as I said before, if $\mathfrak{zj}$. of Manna, and $\mathfrak{zj}$. of Rhubarb are the respective low Doses, then $\mathfrak{z}iv$.

†

and

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and 3ij. cannot be the respective high Doses. As to what concerns some extraordinary Doses given by themselves, and far exceeding the ordinary Dose, it is easily accounted for by the Solution. There are many Examples of this Nature: Turbith, *viz.* is commonly reckoned among them from 3j. to 3ij; yet *Marggravius*, and good Authors, have given it to 3iv. So *Colocynthis* from gr. vi. to gr. xij. and *Fulgin. Fernel. Duncan.* say they have given it to 3ß.

III. Authors have been far from being exact; for they have only dos'd these Medicines for People of full Age; but have left the Doses of the different Ages in Silence; nor have they told us at what Time a Man takes his highest Dose, or how that alters in the Growth and Decline of Age; which is still a very great Difficulty for the most experienced Physicians to manage.

IV. Their general Method is founded in a Mistake; their lowest Dose being really the common Dose taken by the Generality of Men, which produces a Multitude of Errors in the Practice. This is manifest in their dosing every Medicine.

V. The mentioned Case is more manifest by these Tables, and it is two to one but that a Physician over-purges, or under-purges, any Person in Health; and if more Cases in Sicknes are supposed, the Odds will

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will encrease proportionably. Experience confirms this exactly : For if the middle Dose is given to one of the lowest Constitution, and the middle Dose is to purge seven or eight Times; in that Case, the Person of the lowest Constitution is purged near twice as much as he ought to be; and if given to one of the highest Constitution, he is purged but half of what he should be. But if the Dose of the highest Constitution is given to one of the middle Constitution, he is purged twice as much as he ought to be; and if given to one of the lowest, he is purged four Times as much, or about thirty Times, as we find true by daily Experience. But if the Quantity of Blood, the Age, or Sickness contribute to the Error, it may prove fatal. If this Consideration were illustrated by a proper Number of Examples, we should find some hundreds of, otherways unavoidable, Mistakes now prevented, by the Practice of these Tables.

These Tables shew the Doses of Children may over-purge People of full Age.

Lastly, We may easily account, by these Tables, for the Doses of Children over-purging some People of good Health, and of due Age; a *Phænomenon* so surprizing, that the Smallness of the Dose is commonly thought a good Excuse for the Mistake.



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